EDITORIAL

PROMOTING INNOVATIVE RESEARCH THROUGH COLLABORATIONS BETWEEN ACADEMIA AND INDUSTRY

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Continued exploration of the health-care science by conducting innovative and health-care outcome based research has been the main reasons for the globally dominating role played by countries of the developed world. These activities have made their health-care industry un-matching in terms of innovations, technologies and products. A great deal of such innovation and development has been possible through active collaborations among the academic research faculty, clinicians, industries and health ministries. In fact a major proportion of the finances involved in such research activities has been provided by the industrial sector. Despite some unwanted dimensions of such collaborative relationship, they have in general provided an opportunity to researchers and scholars by facilitating their continued engagement in research activities.[1, 2]

Unfortunately, our local industry, in this regard, is not only scarce and weak but it is also not cognizant of the importance of investing in Research & Development (R&D) related work. The only involvement of the local pharmaceutical sector is up to a level not encompassing any research that could lead to the development and practical implementation of new molecules of pharmaceutical relevance.[3-5] This poor situation prevailing in our medical institutes and universities has been mainly because of the government decision taken in the late 70s that led to the taking-over of medical education and its funding from main universities by the local health ministries. As a result, our medical colleges and its attached teaching hospitals have remained simply technical training and certifying places and treatment providing centers with no emphasis put on research and innovation. Thus, during this entire period they remained as non research intensive medical centers where interest of the concerned faculty in research had to end with the achievement of career promotion target.[6]

Recently with the re-establishment of independent medical universities and their funding by the Higher Education Commission (HEC) Pakistan, it has become a mandatory requirement for these universities to build their existing research and development capacity in terms of diversity and quality of their faculty and institutional infra-structure as well as to provide an environment that is conducive and intensive for research. They had to do all this very urgently and rephrase so that their status is raised beyond the simple awarding of certificates leading to practice licensure of the graduating medical students. In fact our medical universities and its institutes should come up as places of excellence for providing health-care manpower capable to perform multidimensional duties including innovative health-care and health-system research. By ensuring science and research in our medical institutes, we will not only facilitate new inventions, products and technologies but will also provide a base for the practice of medicine that is evidence based.[7]

One way to achieve the desired research objectives is that medical universities and institutes in this country have to attract the industry and to convince it to invest in their research and development work. This will only be possible if they could show the industry their research strength and science base. They should also have the potential and ability to educate the local industry about the reality that rapid exploration of scientific advances is the key to survival. Both parties (university faculty and industry) must be aware of the several ethical concerns resulting as a consequence of such academia – industry (A-I) relations. The ever-rising incidence and complexity of these issues have intensified the oversight of research conducted under such A-I collaborations.

Keeping in mind the above concerns relating to A-I collaborations, it is possible to build such multiple and mutually beneficial research collaborations between medical academia and industry. These will surely pave the way for the development of new medical products and technologies. These collaborations will enhance the research infra-structure within the institutions as well as their intellectual credibility and reputation. These will also facilitate the provision of additional income for them through royalties, licensing and sales of their research discoveries. In fact research support from the industry has facilitated research that would

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not have been otherwise possible.[8,9]

Any innovative research carried out in a medical university or institute and its further advancement generally require the help of industry. The industry or a corporate body is better able to translate research findings, new discoveries and innovative concepts into profitable products and technologies. Upon translation of a discovery into practice, further "proof of concept" studies as well as its further updating will be needed. Obviously, more money for such continued research work will be required. Thus the need for support from the industry shall always exist within our universities so that they remain actively engaged in innovative research.

Apart from the availability of faculty and research infrastructure, the establishment and maintenance of collaboration with industry requires additional considerations. The university and its faculty should have earned guaranteed reputation for data confidentiality and research activities. They should have review and ethics boards at the level of institution (IREB) as well as university (UREB). To attract the industry, the available faculty should not only be sufficient but also diverse and well trained for doing the intended research with minimal cost. The faculty should have received advance training and skills necessary for negotiating and addressing issues related to research contracts, protocols, budgets, payment terms, liability, schedules and timelines, data dissemination publication, royalties and patents. In fact the faculty should be well-aware of all the problems and issues that may arise during the course of such A-I relations.[10] Obviously, a few of the existing faculty in our medical universities have been adequately trained for dealing with these issues. It is thus hoped that the topic of A-I Collaboration will be made an integral part of postgraduate training programmes in our medical universities.

To sum up, there is a lot that need to be done to obtain maximum benefits of the A-I relations. The Higher Education Commission (HEC) Pakistan is generously supporting conferences, seminars and workshops that could raise the level of awarness among the industry and academia. It has also set up an industrial liaison secretariat for the purpose.[11] The objective is to develop an effective cooperation between academia and industry and to capitalize on the ever increasing international demand for products and processes. On one side it has launched new programs in the academic institutions to support the discovery of new knowledge and enhancement of the skilled workforce. On the other side, industry is being informed to identify their needs according to the changing circumstances so that intellectual capital and emerging technologies are brought together in such a way that will promote economic growth and an improved quality of life. Medical universities should get maximum support of the kind as offered by the HEC. At the same time, it is also for the HEC to tie the funding of universities with a minimum amount of money earned through A-I collaborations and innovations.

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