

The Impact of Impact

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It happened to us again last week: that dreaded letter from the high impact journal, “While we recognize that your work is of the highest quality, we feel that it is not of sufficiently broad interest for our general readership.” Who are these “general readers” and why aren’t they interested in our work?

This spawned a debate in the lab; how important is a journal’s impact factor, anyway? In this age of on-line journals and internet publication searches, is a particular paper really more likely to be seen by others (ie. have more impact) by being published in one particular journal rather than another? Surely, an important result will be seen by anyone interested in that particular field, no matter what (accessible) journal it happens to be in. Papers in high impact journals are there, in theory anyway, because they are deemed to be of interest to a wider audience than workers in that particular field. This begs two questions: does the work do more to advance the field than if published in a more specialized venue, simply by the fact that it is in such a journal? Secondly, is the appeal to “general readership” a better criterion of high quality work than to readers knowledgeable in that field?

So why bother? Why do granting agencies and other evaluation committees put so much weight on papers in high impact journals? Not every paper in a high impact journal has high impact, just as some of the most important papers historically have not appeared in such journals. Should there be more emphasis on the number of citations of an individual paper? In some grant applications I have seen recently, the author has actually entered the number of citations of each paper in his bibliography. This is, again, much easier in the electronic age.

Perhaps one answer is that there are different types of impact. One is scientific impact that drives or advances a particular field. Another is (for lack of a better name) PR impact, relative to an important problem in human health, for example. A particular paper can have one or both of these types of impact, and they are both important contexts for our work. However, a high impact journal, or perhaps better termed a “high profile” journal, can put more weight on PR impact than strictly scientific impact. One recent example was the publication of the SARS coronavirus genome and subsequent modeling of the main protease structure. While there was nothing wrong with the science and these were very nice pieces of work, it is debatable whether they would have been published in *Science* were it not for the high profile of the disease and the rapidity of the result. It may not be exaggerating to suggest that getting your science only from high impact journals is like getting your news from the headlines in the Sun.

Don’t get me wrong; I have nothing against publishing in high impact journals. Some of my best friends publish there, frequently (I’ve even had the pleasure once or twice, myself). Submit your work there when you can! Whether or not it should be, the fact is that it is a great boost to your personal profile and career (not to mention ego). At the same time, though, as a researcher (and a reviewer), remember that there is often little or no difference in the scientific quality, or even impact, of work published in more “specialist” journals. And those “general readers” don’t know what they’re missing!

Pilfering the Public Purse for Private Profit

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Fundraising season is upon us again. With the Terry Fox Run, the CIBC Run for the Cure and the CN Tower stair climb on the horizon, the public mind once again turns to the importance of funding research to cure our ills. It is clear from the prominence of these events that there is considerable public support for medical research. But the

public contributes to research in a much more significant (though less conspicuous) way as well. In the research environment of today, government funding still provides the backbone of financial support for medical research. Over the past two decades, the number of federal dollars put into public research of medicine has more than

Public funding of research - OPINION

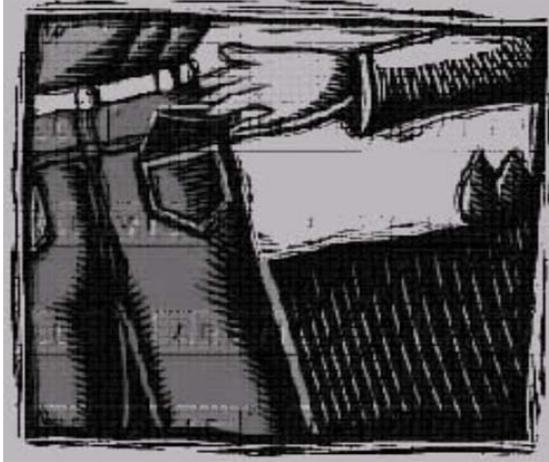
doubled, growing from several hundred thousand dollars, to a nearly 2 billion dollars a year industry¹.

There is a clear public interest in funding medical research because it offers many direct and indirect returns on our investment, so to speak. Of the possible benefits we can reasonably expect from public investment in medical research, perhaps foremost is the improvement of healthcare quality. This nebulous concept encompasses anything from tangible metrics such as decreased mortality rates, improved access to services, to less tangible concepts such as patient satisfaction and improved quality of life. A second return is a decrease in costs associated with providing these services. Providing cheaper methods or techniques to produce the same results should be a by-product of investing in, and thus improving the technology behind medicine. Thus, public money is invested in medical research with the belief that progress in research will improve both the quality and cost of the healthcare system for those who use it - members of the Canadian public. However, the current paradigm under which research operates puts both of these possible benefits in jeopardy.

In research today, alongside public funding, there is a corporate presence. Corporate sponsorship has become an increasingly powerful entity in medical research over the past two decades; between 1980 and 2000 corporate funding of research has increased by 62%². However, their participation in the research environment does not come without their own expected return. In exchange for a comparatively small investment in capital and equipment, research agreements tend to give first right to license any intellectual property to the corporate partner. Examples of this type of relationship abound in our very own university, from the now defunct Amgen-Ontario Cancer Institute relationship, to more modest research agreements such as that between Imaging Research at Sunnybrook and General Electric (GE). The latter agreement gives GE access to, and in turn, virtual ownership of research that is funded primarily with public money³. The demands of these corporations go further still. In many cases, it is the corporate interests that are driving the research agenda⁴. I would argue that the demands that corporations make far outstrip their contribution. It's like ordering pizza with a labmate who puts in only a fraction of the money but insists on deciding what toppings to order. Then when the pizza arrives, he snatches the biggest slices for himself.

The desire of these corporations for profit is often in direct conflict with the public good. The hunt for the genetic link to hereditary breast cancer is an illustration from the United States of how the corporate agenda undermines the ability of research to serve the needs of the public. Making extensive use of the publicly funded Utah Genealogy database, as well as funding from the National Institute for Health, Myriad Genetics was able to isolate and clone the BRCA-1 and BRCA-2 genes⁵. Having been granted international patents for both these genes in the early to mid - 90's, Myriad is aggressively pursuing patent

infringement litigation to make the testing for these genetic mutations exorbitantly expensive⁶. Furthermore, they have also sought and received patents for all diagnostic and therapeutic applications of these genes, all vaccines derived 'with the help of this gene', all animals which incorporate one of the gene sequences and all future applications of these gene sequences⁷. While the quality of this product is excellent, the potential benefits become moot when price is a barrier to access as is the case in many Canadian provinces⁸. Thus this research, which was designed to improve the management of patients with hereditary gene mutations, is now tightly held in private hands serving only Myriad Genetics' desire for a handsome profit margin.



It has been argued that the involvement of these corporations is necessary or even desirable because of the positive contribution that it will supposedly have on the Canadian economy. However, as most of these corporations are multi-national, they make no commitment to take the ideas that they garner from Canadian research and further develop them here in Canada. So, there is no guarantee that these public-private partnerships will result in any substantial benefit for the Canadian economy. What is

guaranteed is that we, the Canadian public, having already devoted both the resources and people to developing drugs and technologies, are having the products of our research sold back to us with a tidy profit margin attached. The golden handcuffs included with private sponsorship relegates the funds originally intended for public research into nothing more than a corporate subsidy.

What then is the recourse to private control of public research? It could be argued that better regulation is the answer. But the regulatory bodies, such as the Governing Council here at the University of Toronto, already exist within universities to address issues involving conflicts of interest. However, this issue of public money for research being diverted for private gain does not seem to be viewed as part of their mandate.

We believe that a more substantial change is needed. The current methodology under which scientific labs compete for both private money and public funding is anachronistic. This relationship harkens back to an era in which separate labs could not easily communicate due to geographic separation. Moreover, under the current paradigm, labs have no motive to share ideas due to artificial barriers that pit lab against lab and researcher against researcher in the race for funding dollars. If instead we view researchers within public institutions as a community who are working for a shared goal, we can see that these separations are obstacles to the progression of scientific knowledge. Once the barriers between scientific groups have been broken down, scientists can then stop counterproductive infighting and realize the efficiencies available through a connected research network. We, as researchers, have a responsibility to the Canadian public

to ensure that the money that has been invested in medical research is used to further the public good, not private profit. This is our duty. This is our debt.

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OPINION

Ontario's Private For-Profit MRI and CT Scanners: Saviour or Scourge?

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The newly expired Progressive Conservative Government had taken steps to ameliorate the disparity in MRI and CT diagnostic services between Northern and Southern Ontario by going private. To follow are some of the details associated with the private sector bidding procedure, its outcome, and scandalous details consistent with political corruption.

According to statistics from a recent report from the Institute for Clinical Evaluative Sciences (ICES), utilization of MRI scanners in Ontario has increased 5-fold over the past decade. Requests for Proposals (RFP) for private for-profit MRI and CT services were issued officially by the Ontario Government in November, 2002 and closed in January, 2003. The accompanying table lists the 4 companies who won the RFP. Private CT services will not be provided in the City of Brantford because the bid price was too high. Instead, Norfolk General Hospital will receive a CT scanner. The other 7 private centres are said to be open by December 7, 2003.

Rules stipulated that no more than 3 regions would be awarded to any one respondent. From more than the 100 bidders (over all the listed regions), DC DiagnosticCare Inc - a company owned by Progressive Conservative (PC) TOP 5 donor Dr. John Mull, was awarded this maximum. In addition, according to a news release by the parent company, Canadian Medical Laboratories Ltd., their imaging business will receive a tax-cut on payment of facility fees, effective August 1, boasting additional revenue of approximately \$2.5 million annually.

In the RFP documentation, there is mention of an "independent fairness commissioner" whose job was "to oversee the release and evaluation of the RFPs" and ensure the process was carried out "in a fair and

consistent manner". Attempts by interest groups such as the Medical Reform Group and the Ontario Association of Radiologists to learn the name of this individual and receive a copy of their formal report have failed as of the time of this publication.

Currently, the Ontario Association of Radiology submitted a freedom of information document to the Ministry of Health to ascertain this critical information. It will be used to independently assess whether the RFP process was in fact fair and consistent.

Pre-licensing inspection of all private MRI/CT clinics are being conducted by the College of Physicians and Surgeons of Ontario (CPSO). The CPSO has acknowledged that "queue jumping", whereby patrons can pay out-of-pocket for medically non-necessary scans, will not be supported. The CPSO also states that all radiological consultations require a requisition from a physician indicating that the procedure is medically necessary. Critics argue that an accommodating physician could authorize a "yuppie scan" for their patient in the interest of decreasing the time between query to treatment, if the patient has the money to pay out-of-pocket. Critics also argue that there is a possibility that a disease will be detected incidentally after an individual pays out-of-pocket for a medically non-necessary "yuppie scan". Both of these realistic situations would be examples "queue jumping", and this inequity is a violation of the Canada Health Act. Therefore it's not surprising that former Health Minister Tony Clement spent his last months at Queen's Park tip-toeing around this issue.

Now that Ontario has been painted Liberal red, it remains to be seen what will happen to these private MRI and CT centres. Given the magnitude of the Ontario deficit