

Dental FEBRUARY 1995 Research News

Research Development Office, (902) 494-1675

Stimulus & Challenge

The voice of Dal Dental research

VOLUME IX, NUMBER 2.

12 Month Anniversary of Establishment *Happy Birthday CRU*
of Clinical Research Unit.

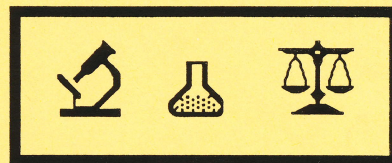
Research Funding

There is no question that if you speak to colleagues at Dalhousie in the biomedical and health care field you will hear confirmation that research funds are much more difficult to obtain than they were some 5 years ago. However, that does not mean that this statement applies to all segments of the research community. Those who would like to conduct research in the area of clinical dentistry may in fact find that it is easier today than it was in the past to obtain funding. A report by Dr. James Wood recently highlighted the surprising fact that during the period 1990-91 to 92-93 the total research funding obtained by the 16 Medical Faculties in Canada increased by 28%. In contrast the funding for Dalhousie Medical Faculty remained reasonably steady at between 12 to 15 million during this same period. The report by Dr. Wood recommends that in order for the "have-not" Faculties to obtain a better share of the medical research funding available they should place a high priority

on the establishment of research teams. He further recommended that the "have-not" faculties should make industry more aware of the research potential of the institutions. Interestingly these two priorities have been a central feature of the policy for developing our biomaterials research in Medicine and Dentistry. A further recommendation which has also been voiced from our Faculty was the suggestion that MRC reinstate Development Grants for the underdeveloped institutions, with a greater focus on the development of team research than was previously the case, and perhaps on a dollar-sharing basis with Provincial Granting Agencies. This brings us to the other question of why is Nova Scotia not providing research funding for biomedical research. Such support would be a good investment since it would allow researchers in the province to become much more successful in competition for federal research funds. Such funding would provide

leverage for other research funds from out of province. This would provide a net income to the province. The acquisition of some \$15 million for biomedical research currently brought into the province from outside enhances the local economy by employing a large number of people, who live and spend their money locally.

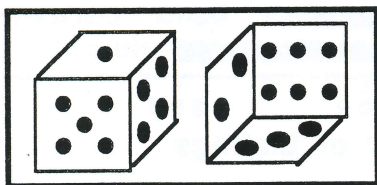
=====
See page 2 for a simple remedy to solve the problem of the deficiency in biomedical research funding for the research community at Dalhousie University.





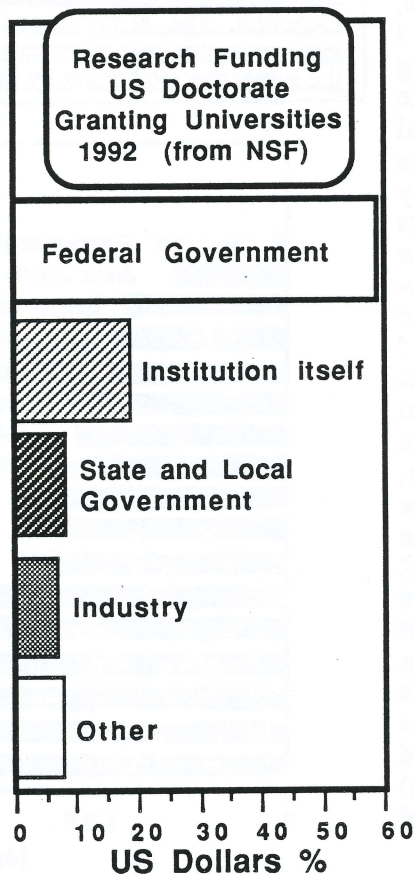
A good Idea, But Don't Bet On It.

Perhaps a small percentage of the *projected* vast profits from the provincial casinos could be applied to the area of biomedical research. Since we have a guaranteed \$100 million for the first 4 years, why not apply 12% of this to biomedical research during this period. Three million a year for four years, after all would help to create a significant number of high-tech research jobs, which in turn puts the money back into the economy. In addition the enhanced external research funding which would follow would increase the net benefit to the province. Even those who are opposed to gambling might think that this was a good bet. Just imagine if a proportion of the research funding was used to address the quality of the health care system in such a way that it was also able to recommend reductions in health care costs to the province. Any doctor would say that this was good medicine.



Who Pays

We often imagine that in the U S the government plays a smaller role in supporting university research and that industry plays a major role. However, this is not the case as can be seen from the data in the bar diagram below. This data is for US doctoral granting Universities, the data indicates the research funding for the year 1992. It is surprising that industry provided less than 7% of the research funds, less than the state and local government which provided just under 8%. The most interesting statistic was that the institutions provide almost 20%.



Do you know what you are doing?

"If you know what you are doing you are not doing Research."

Bertrand Brockhurst, Recipient Nobel Prize for Physics 1994.

Human Activities

"Unlike electrons, social entities do not exist independently of the activities they govern nor of the conceptions that participants have of them, and they may be relatively unenduring. Nonetheless, these social structures - for example, social class - exert strong influences over human activities." R. Bhaskar, *The Possibilities of Naturalism*, Atlantic Highlands, N.J. Humanities Press, 1979, p. 48.

Experiences

"Experiences are not necessarily significant. Rather, one must work to produce significant experiences, and scientists sort out significant from insignificant experiences through antecedent knowledge. By prior substantive knowledge, the experimental scientist tries to exclude external influences and to trigger the causal entity under study so that entity acts in relative isolation." Ernest R. House, *Educ.Res.*, Aug-Sept. 1991 p 2-9.

Not Conclusive

"Causal laws are not dependent on empirical regularities, that is, regular successions of events, because these are neither necessary nor sufficient to establish the laws, nor conclusively confirmed or falsified by their instances. Rather causal laws are tendencies interacting with other tendencies in such a way that an observable event may or may not be produced." W. Outhwaite, *New Philosophies of Social Science*, London, Macmillan, 1987.

Trends in Dental Research

Each year the IADR/AADR/CADR request that the abstracts submitted are accompanied by a list of five descriptor words selected from a list of 281. By looking at the number of listings of these words it is possible to get a reasonable idea of ongoing dental research. If you wish to compare this years trend in dental research with that of last years meeting, look up the March 1994 edition of the Dental Research News (Vol. VII, #3, p. 2-3).

The general areas or disciplines of research are depicted in the bar diagram below. It is important to note that each of the 1,960 abstracts for the March 1995 AADR/CADR programme would be accompanied by five descriptor words. In some cases these words may not be so closely linked to the research as in other cases. As can be seen the most frequently listed wordings were Human, dental materials, periodontics, microbiology and prosthodontics. It is encouraging to see that Human for the first time has been placed ahead of dental materials. Some 15% of the papers in the programme used the key word "human." Only 6 abstracts used the key word descriptor "human experimentation." However, 4.5% of abstracts used the descriptor "Clinical Trial." Epidemiology (4.5% abstracts) is also listed strongly. It can be seen that the trend in recent years for a heavy concentration on adhesion, composite materials and dentine bonding agents is once again reflected in the 1995 AADR/CADR meeting. It is interesting to note that implant and diagnosis are listed higher than amalgam. The listing of caries at over 5% of the papers is still well represented. It was pleasing to see the continuing trend with cell culture (6.9% of abstracts) now quite close to the listing of animal research (7.2%).

=====

A Dozen Abstracts for Dal at AADR/CADR Meeting

The following Abstract by Kathy Russell brings the total of papers carrying Dalhousie names which have been accepted for the AADR/CADR meeting in March to 12. A total of 9 were detailed in the October issue of the Dental Research News and a further two abstracts were also reproduced in the January Dental Research News.

Assessment of Nasal Esthetics in Individuals with Unilateral Clefts.

K.A. RUSSELL*, and B. THOMPSON (Hospital for Sick Children, Toronto). The purpose of this study was to determine if there was agreement between variation in anthropometric nasal measurements and qualitative assessments of nasal esthetics in individuals with clefts. Three evaluation methods were used for 29 individuals with complete unilateral cleft lip and palate. Nasal morphology was assessed using 22 anthropometric measurements obtained from frontal slides, lateral cephalometric radiographs and nose casts. A panel of orthodontists rated nasal esthetics from frontal, three-quarter, lateral and basal view slides and nose casts using a visual analog scale and qualitatively described nasal morphology. Based on nasal esthetics ratings, the individuals were statistically subdivided into groups with the best and the worst esthetics using the 'Best Subset Selection Method' with a 99% confidence level. Differences in anthropometric measurements and nasal esthetics between the best and worst subsets were identified using the Student's t-test. The columellar width, nose base angle and nasolabial angle were significantly different between the best and worst subsets ($p < 0.05$). Differences in panel ratings of nasal esthetics between the best and worst subsets were statistically detected using lateral and three-quarter view slides, but not with frontal or basal view slides ($p < 0.05$). Substantial qualitative differences, however, were detected from all four views and involved anatomic structures other than those involved in the significant anthropometric measurements. It is concluded that variation in anthropometric measurements do not necessarily indicate variation in facial esthetics. The slight morphologic differences noted from the use of anthropometric measurements were not sufficient to explain the unanimity of the subjective evaluation by the panel.

