RESEARCH

There has been a significant change in the number, variety, and scope of research endeavors in the 20 years from 1980 to 2000. In 1980, the National Institutes of Health (NIH) support to the College of Medicine totaled 4.6 million dollars. In the year 2000, it was 21.3 million dollars. Although the largest sum of outside funds for research comes from the NIH, there are other organizations and agencies funding research at UNMC. As of July 2001, the first funding from the Nebraska Tobacco Settlement Biomedical Research Initiative was obtained. It is assumed that this will continue to be a source of funding in the immediate future.

The total amount of money for research was 5 million dollars in 1980. By 1997, it had reached 27.2 million dollars. Since then the rate of increase has increased significantly and by 2001 it was 41.3 million dollars.

Research Funding at UNMC

[Graph showing the growth of research funding from 1979 to 2001, with key points at $5.0 million in 1979, $27.2 million in 1997, and $41.3 million in 2001.]

7/18/01
It is not within the scope of this work to record all of the research occurring at UNMC at this time. However, there are three Program Project Grants and one Cooperative Research Project funded in excess of 1 million dollars at this time which are worthy of mention: “Neuro-Circulatory Function in Chronic Heart Failure”, project director Irving H. Zucker, PhD., Chair, Department of Physiology and Biophysics; “Folic Acid and Homocysteine: Mechanisms of Heart Defects”, project director Thomas H. Rosenquist, PhD, Vice-Chancellor for Research; “Molecular Origin of Cancer: Catechol Estrogen-3,4, Quinones”, project director Erocle Cavalleri, DSC, Professor, Eppley Research Institute; and “SPORE in Gastrointestinal Cancer: A Cooperative Research Project Centered at UNMC”, project director, Michael Hollingsworth, MD, Associate Professor, Eppley Research Institute.

Occasionally research will lead to the discovery of new products or procedures which have potential commercial application. In 1991, UneMed Corporation was founded for the purpose of marketing technologies invented at UNMC. It arose from an earlier attempt in marketing called Medigenics (32). UneMed is incorporated and independent of the University. It has a Board of Directors consisting of five individuals from the community, a secretary to the Board, and four shareholder representatives from UNMC: the Chancellor, the Vice-Chancellor of Academic Affairs, the Associate Vice-Chancellor of Academic Affairs, and Associate Dean of Graduate Studies and the Vice-Chancellor for Business and Finance. At this time the President and CEO is Thomas McDonald, PhD, Professor in the Department of Pathology and Microbiology. Linda S. Johnson, MPA, who serves as Associate Director for UNMC’s Intellectual Properties Office, is Vice-President. (1)

UneMed has a Technology Development Program Agreement with UNMC to market technology invented at UNMC. “UNMC receives 100 percent of any proceeds generated by UneMed from the sale or license of technology.” (1) The inventor(s) receives one-third, his/her department receives one-third, and the Administration of the Medical Center receives one-third.

In 1994 the University Hospital initiated a Clinical Research Support Service (CRSS) designed, “...to increase industrial research, facilitate translational research and boost the number of clinical trials” at UNMC. The Director of Technology Development is responsible for CRSS. “The goal of the program is to move a drug or medical device from the experimental stage to the market”. (47)
Dr. Howard Gendelman is Director of the Center for Neurovirology and Neurodegenerative Diseases which is extensively funded by a variety of grants. In 2003 the Center is expected to receive approximately 6 million dollars in federal funding. (17) During the last few years research done at the Center has led to controversy with significant ramifications.

On November 28, 1999, an article appeared in the Omaha World Herald (Mary McGrath) reporting that UNMC was using “brain cells from aborted fetuses in research aimed at a better understanding of Alzheimer’s disease” (10). Upon a request from the paper, Chancellor Berndt acknowledged that Dr. Leroy Carhart, operator of the Bellevue-based Abortion and Contraception Clinic of Nebraska, provided the tissue. Dr. Carhart had a voluntary faculty appointment in Pathology commencing October 1987.

As might be expected, this information caused significant controversy. The Omaha World Herald, although generally supportive of the research, reported that “when this research was proposed initially, it was effectively buried in material submitted to the Regents and lawmakers” (11).

University President Dennis Smith subsequently announced that he would form a board to advise him and the Board of Regents on bioethical issues. The Bioethical Committee was appointed and began functioning by March of 2000. It consisted of specialists in biological research, law, medical ethics, medicine, philosophy/theology, social/behavioral science and a member of the public. (72) The committee was to review appropriate policies, guidelines and regulations as they related to bioethical research being conducted at the University. The Committee was to identify broad, overreaching, principles to govern ethical conduct of biomedical research at the University of Nebraska. The Committee would not be responsible for approval of individual projects since there were processes in place at the federal and university level to approve research projects.

The University Faculty Senate at its December 1999 meeting supported the continuation of using fetal tissue. (69) It also backed efforts announced by Chancellor Harold Maurer to seek out natural sources of fetal tissue for research including tissue from miscarriage, tubal pregnancy, and stillbirth.

In 2000 a bill, LB1405, was introduced by state Senator John Hilgert which would ban the use of fetal tissue obtained from elective abortions for research, treatment, or transplantation. A hearing was held by the unicameral judiciary
committee on February 23, 2000. A number of individuals and organizations testified before the committee. The Nebraska Right To Life was opposed to the research and supported the bill. Experts from out-of-state testified. Dr. Keith Krutcher, a Professor of Neurosurgery, from the University of Cincinnati, testified in support of the bill noting that he was opposed to using the fetal tissue obtained from abortion even if it was absolutely necessary, "......the evidence is not there that this is required or the best approach". Dr. Eugene Major, a research scientist from the National Institute of Neurological Diseases and Stroke at Bethesda, testified that tissue obtained from abortion was critical to learning about brain functioning and that a ban would cripple important research into the mechanisms of neurodegenerative diseases and the functioning of the brain. (13)

The bill died in committee on a 4-4 vote not to advance it to the full Legislature. Senator Hilgert pulled the bill from further consideration on March 28, 2000 (71).

In an editorial on February 5, 2000, the Omaha World Herald noted that LB1405 would stop research in Nebraska on neurodegenerative diseases. More importantly, at the national level, it would in all likelihood make those involved in granting research support reluctant to support other research at the University of Nebraska. Nebraska would lose a number of nationally recognized researchers from the Medical Center and would have a difficult time recruiting top ranking scientists to Nebraska. (12) In compliance with Chancellor Maurer's directive, the University of Nebraska Medical Center continued to explore other potential sources of tissue to use in place of that obtained from elective abortions. In August 2000, Dr. Gendelman reported that scientists at UNMC had been able to use cells from rapid brain autopsy. The autopsies had to be done within two hours of death. They were able to obtain two of the three cell types required for the research from this tissue. These were astrocytes and microglia support cells for the neurons in the brain but they were unable to obtain neurons. Further investigations have continued and UNMC has reallocated $250,000 in the quest for alternative tissue sources. (74)

An in depth analysis of the College of Medicine's volunteer faculty program was carried out during the spring and summer of 2000. A new policy for appointment and retention of voluntary faculty resulted. Among the various criteria was one requiring that the primary appointment for physicians would be made in the department of their specialty training. More than 200 volunteer faculty members were sent appropriate letters alerting them to the newly
adopted policy. Those whose primary appointments were not in the department of their specialty training, were notified that their continuing appointment would end December 20, 2000, if they did not rectify this situation. (76)

Dr. Leroy Carhart, who supplied the fetal tissue to UNMC, was notified that his voluntary faculty status would be terminated since he provided abortions and conducted family practice which would not qualify him to be in the Department of Pathology and Microbiology where he had his voluntary appointment. (14) He did not seek reappointment in an appropriate department and was terminated.

Dr. Carhart filed suit against UNMC January 18, 2001 in the U.S. District Court in Lincoln. Among other things he requested that the court order the Medical Center to reinstate his voluntary faculty appointment. His lawyers alleged that he was terminated because he had challenged and ultimately defeated Nebraska’s ban on partial birth abortions. (16,18) On August 23, 2001 the University announced that, “....in light of a federal judge’s prediction that it would almost certainly lose the case if it went to trial....” reinstated Dr. Carhart as a volunteering faculty member with sufficient restrictions that it was an appointment in name only. (84)

Subsequently, with the approval of the Institutional Review Board, fetal tissue was obtained from the Birth Defect Laboratory of the University of Washington. This tissue program was funded by the National Institutes of Health and had provided tissue to scientists for nearly 40 years. It provided tissue only for grant funded research. (79)

In the 2001 session of the Legislature, State Senator Dwite Pedersen introduced LB462 which would prohibit the use of fetal cells from elective abortions for medical research. Senator Chris Beutler introduced LB304 as a possible compromise. This bill would require the University to give yearly reports on its search for alternative sources and discontinue use of fetal tissue from abortions once an adequate substitute was found (82). Both bills were bracketed and subsequently came up early in 2002 Legislative Session but were withdrawn under threat of a filibuster.

In October 2002, a report to the UNMC Institutional Review Board showed a 65% decrease in the use of fetal cells. Dr. Gendelman hoped this would help to reduce the public furor on the subject. He did not expect it to appease
antiabortion activists but hoped it might persuade the Regents and the State Legislature to halt further attempts to ban research using fetal cells. (17) Even though the amount of federal financial support which Dr. Gendelman’s section receives is a substantial portion of the total federal funding for the Medical Center, its leaders worry about losing State funds if the Center becomes an issue. The consequences of all this is to restrict the program from expanding including addition of new people. Fetal cell researchers will not be able to work in the new 11 story research facility, even though it is being built through private donations. More importantly expansion to the next level of clinical trials which will come about in the next couple of years will probably be restricted because researchers don’t want to start trials and enroll patients unless they know they will be able to finish the research project.

Chancellor Maurer at the time of investiture indicated that he looked forward to guiding UNMC to become a world class academic health center. Much has been done already to reach this goal. However, an atmosphere of restriction such as that imposed on Dr. Gendelman is a serious threat to that goal. Should his program be forced out because of restrictive legislation the “black eye” which the Medical Center would receive nationally would be very damaging.

Unfortunately as we go to press, Senator Dwite Pedersen has introduced LB512 into the 2003 session of the Legislature to prohibit the use of fetal cells for research. (8)