

Dean's Newsletter

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From the Budget Depths to Leading Matters

The Provost presented an update on the university budget at the January 22nd meeting of the University Faculty Senate. He provided an assessment of the impact of the global economic crisis on Stanford University overall – but also pointed out how these changes were affecting the different Schools. He began by reporting that the projected 2009 investment returns on the endowment are the worst in 45 years. The final results are of course not in for 2009, but currently the investment returns on Stanford's endowment are about negative 27%. This is of course a startling figure, albeit consistent with what is being seen at other universities and foundations. For reference, the worst prior year of investment returns was in 1974 at negative 8%.

For the University as a whole, investment income from endowment comprises 29% of our consolidated revenue. Other sources of revenue include grants and contracts (28%), tuition (16%), healthcare (11%), expendable gifts (7%) and other miscellaneous sources (9%). The relative distribution of these sources differs from school to school; this accounts, in part, for the variations across the university in how the downturn is being experienced and how decisions are being made to accommodate to reductions in revenue.

It should also be noted that the investment income from endowment is adjusted by a rolling three-year "smoothing formula." In practice this means that the endowment income for FY09 (the current fiscal year) was fixed by the prior three-year smoothing; as a result, the impact of the downturn is minimal for this year. However, for FY10 the endowment income will be a negative 7.2% (assuming that the University endowment drops by the 25%). It could be worse or better in FY11 and beyond, depending on what happens to the American and global economies. For subsequent years, the investment returns will depend on whether the economic crisis improves or worsens. Of course, that means that our resources could decline even further.

It is also important to remember that investment income – which affects the University's General Fund Budget – is just one source of revenue and that all other sources are also being affected. That said, some of these negative projections could

improve, depending on how well the stimulus package, recently approved in the US House of Representatives and now being considered in the Senate, works in reversing the economic downturn that continues through this writing. Increased federal support for science and technology should help, and it is encouraging that this is in the stimulus package. Other programs may also have an impact – but not all will be positive. And as I have pointed out in recent Newsletters, although our clinical income remains robust, this is also subject to change as job loss continues to increase, states cut back on entitlement programs (like Medi-Cal), and health care reform moves forward.

As you have likely heard, the Provost is taking steps to counter the projected significant reductions in the general funds budget. Most notably this includes a 15% reduction in allocated general funds over the next two years. This is an area that distinguishes the rest of the University from the School of Medicine. Since we are a “formula school,” general funds comprise far less of our overall revenue than most other Stanford schools – about 7%. We are much more dependent on sponsored research and clinical income. In addition, income from endowment comprises about 11% of our consolidated revenues – which is also far less than other schools. While we are thus less affected by reductions in general funds and endowment payout, the reductions we are witnessing are still very significant and have already resulted in a number of changes and policies that have been put into place since last Fall – with others to come in the weeks and months ahead.

That said, it is important to recognize that other schools at Stanford are already experiencing or projecting more dramatic declines in revenue than we are in the School of Medicine. Thus, if you read or hear about staff or programmatic reductions in one school at Stanford (as recently announced for the Graduate School of Business), you should not assume that the same approaches will be taken for the medical school – since our economic profile is quite different. However, it is safe to conclude that additional and significant cost cutting will be needed throughout the School of Medicine – especially if the global economic crisis continues unabated. Of course we all hope that the stimulus package will put the breaks on the economic downturn – and hopefully reverse the course.

Needless to say, all the grim news we have been receiving over the past many months (although now somewhat attenuated by the more positive results coming out of Washington during the past two weeks) can sometimes lead us to wonder if anything is going in the right direction. That question was partially addressed for me by my participation in the Stanford “Leading Matters” program in Los Angeles on Saturday January 24th. I joined approximately 30 Stanford faculty for a very special event that attracted some 1500 alumni and guests for a program of lectures, seminars and discussion groups on a wide array of topics ranging from science to the arts to the environment, public policy and more. I was fortunate to facilitate a Frontiers of the Future dialogue on “Understanding Our Brain and Behavior” led by Carla Shatz, Professor of Biological Sciences and Neurobiology and Director of the BioX Program and Brain Wandell, the Isaac and Madeline Stein Family Professor and Chair of the Department of Psychology. We had the opportunity to give two sessions to standing-room-only crowds that

engendered considerable interest and discussion. While I didn't get to other sessions, I am sure they also presented compelling issues and evoked considerable interest. These academic sessions were accompanied by presentations from students in dialogue and in quite inspirational media productions.

In different but converging ways, the LA Leading Matters event reaffirmed for me why we do what we do. The optimism and talent of our students – across the University – together with the important initiatives being pursued by our faculty are more important than ever. Indeed, even though most of our days are now filled with concern and anxiety, the impact of Stanford's programs in education, research and patient care – and the future leaders we produce – give hope despite the immediate challenges. And they reaffirm why we need to think and act boldly and ambitiously – to match the needs of the next generation and to use our talents to reshape our world.

It was helpful to go from discussion on budget to Leading Matters, which focused on what we are doing to improve the world we are living in – now and in the future.

Stem Cell Research Funding and CIRM

It is ironic. Over the past two years, as research funding from the NIH has declined, the California Institute of Regenerative Medicine (CIRM) has filled a vital and important niche. Not only has it been the major source of funding for stem cell research in the USA, it has also helped to provide important research funding at a time when NIH funding has fallen. Equally important, once CIRM overcame the legal challenges to its existence, in 2006, it has been a beacon of hope for stem cell research for the nation – training future leaders, moving the field forward and setting the foundations for the translational research programs that are anticipated over the next couple of years. The current momentum has been terrific – and Stanford faculty have played a key role, receiving more peer-reviewed competitive funding than any institution in California and creating a community of excellence that now extends across the university campus as well as to collaborators across the state, nation and world. There has been much to be optimistic and proud about.

How ironic then to witness a very serious potential setback to CIRM's efforts. At the January 29-30th meeting of the Independent Citizen's Oversight Committee (ICOC) – the Board that oversees CIRM and on which I have served since its inception in December 2004 – we learned that the \$40 billion budget deficit in California, along with the national economic crisis, has resulted in an inability to sell state bonds. In fact there is a very large number of unsold bonds – which include those already authorized for CIRM. Current projections are that this situation is unlikely to be resolved until the end of 2010. This has a number of consequences. As of January, 2009 CIRM has \$158 million in cash from past bond sales. Through June 2009, ongoing grant commitments and other expenditures will reduce this to \$39.2 million. But that is only part of the picture. With other ongoing grant commitments – some of which extend over multiple years – as well as operational costs, the minimal deficit at the end of December 2010 is projected to be

\$133.6 million, assuming no further projects were approved, no new RFA's issued and a number of administrative cost containment actions were put into place.

The ICOC spent considerable time and debate in considering options. While the first priority must be to honor past, current and future approved commitments, an important question was whether to simply stop approving future awards and to not solicit new proposals. The ICOC was very cognizant of its fiduciary responsibility but also of the critical importance of CIRM in fostering stem cell research and in serving various constituencies – the public who voted for Proposition 71, the patients and families who are anticipating scientific and clinical progress through stem cell research; the students and trainees who will comprise the future research workforce; the faculty, scientists and research universities and institutions engaged in stem cell research and whose programs will be adversely impacted by a slow down or pause in funding; the biotechnology industry in California, which anticipates discovery and translational advances in stem cell research; government leaders in California and indeed across the nation; and our global scientific community. Even given the realities of the fiscal crisis in California in particular – as well as the events transpiring around the world – we still elected to do our best to find creative ways to move forward.

Given the problems in the current bond sale efforts, CIRM and the ICOC will pursue an alternative through “private placement.” This is an ambitious task with lots of challenges – but it is worth a serious effort. The basic mantra of the ICOC is that we have faced adversity before (which I can affirm is absolutely true) and that we have found ways to overcome major external challenges. We are committed to doing that again. With that spirit, we approved the Bridges to Stem Cell Research Proposals as well as the Training Grants II that had been reviewed and recommended by the Scientific and Medical Research Funding Working Group. We felt that the recommended proposals were highly worthy, and I am pleased to say that the Training Grant II proposal for Stanford scored highest in its category. However, because of the uncertainty about funding these grants are not being recommended for funding at this time – but that decision will be revisited in upcoming ICOC meetings when we hope that the budget situation in California will be clearer. We also elected to approve the RFA for the Disease Planning Awards with the same spirit of not wishing to lose momentum. Of course investigators applying for these grants will be informed of the current fiscal situation of the CIRM.

Clearly this news is disappointing – but we need to also acknowledge what we have accomplished to date in stem cell research, particularly through CIRM. Stanford remains the top funded institution in California with just over \$100 million in grants, training awards and major facility support – including the Lorry Lokey Stem Cell Research Building/SIM1 that is now under construction. So, while there may be some setbacks, if history is any guide to the future, we will find a way to get back on track and continue this record of success.

Stanford Medicine North

On Friday, January 23rd Stanford Hospital & Clinics (SHC) hosted a reception in honor of the February opening of the Stanford Medicine Outpatient Clinics in Redwood City. It was an impressive event, largely because of the truly wonderful clinical facility that has been developed by SHC in Redwood City. As you likely know, this will be the clinical home for the Departments of Orthopaedics and Dermatology. It will also house the Pain and Sleep Programs as well as an Imaging Center and Ambulatory Surgery Center. In the future it will provide a home for a GI Endoscopy Center as well. The clinical facilities are outstanding and wonderfully appointed to give comfort to patients and to provide a highly functional and attractive facility for our faculty and staff. The major renovation of this facility has also been an excellent partnership between the leaders of SHC and School of Medicine – especially the cognizant department chairs and their faculty leaders, although the costs have been born by SHC.

It is notable that 50 years ago, Stanford Medical School and Medical Center became co-located on the Stanford campus – a geographic partnership that has shaped Stanford Medicine in remarkable ways. Now, fifty years later, we are reaching out to our neighboring communities to forge new relations that will support the needs of patients in the Bay Area and beyond. Another exciting chapter in the history of Stanford Medicine unfolds.

Connections Launched

On Thursday, January 22nd the Office of Academic Affairs launched a new program for newly appointed Assistant Professors and Clinical Assistant Professors called *Connections*. Led by Dr. Lucy Tompkins, Lucy Becker Professor of Medicine and of Microbiology and Immunology and also Associate Dean for Academic Affairs, the *Connections* program is designed to help junior faculty meet and network with other Stanford colleagues across departments and disciplines and to learn more about the medical school and the resources available to support career development at the departmental, school and university level. This will be accomplished by assigning groups of faculty to meet in small groups facilitated by a senior faculty member and designed to foster communication and mentoring. It is modeled in part on the highly successful Faculty Fellows Program led by Senior Associate Dean Hannah Valantine. *Connections* is being initiated to provide a resource for junior faculty to help foster and facilitate career development and satisfaction at Stanford. It is currently a pilot program but I certainly hope that it will prove successful and become another important feature of our efforts to improve the experience for junior faculty at Stanford.

UPDATE ON LANE LIBRARY

At the January 30th Executive Committee meeting, Heidi Heilemann, Associate Dean for Knowledge Management and Director, Lane Medical Library & Knowledge Management Center, provided an update on the progress on Lane's current strategic initiatives. These include:

- Developing a transparent *digital library* of knowledge sources and services available anytime, anywhere

- Creating *smart interfaces* and search tools that put knowledge in context at the point of care, research or learning
- Developing a *learning hub* that facilitates navigation and manipulation of knowledge content
- Designing flexible *library spaces* for students, trainees and instructors to collaborate, reflect, retreat
- Developing an *approach to research* innovative knowledge management tools and services

Her report on these initiatives follows:

Building a digital library

We now have over 98% of our current journals available electronically and 2844 of these titles are available online back to volume 1. Considering that the first electronic journal was not made available until 1995, this represents a significant effort of licensing with hundreds of publishers and providers in order to provide the Stanford University Medical Center seamless access to these important knowledge resources in biomedicine. Lane also provides access to over 5,800 eBook titles (up from 1 in 1996).

Considering the breadth of trusted content available together with steady traffic of over 3,000 visits to the LaneConnex website per day, one could make the argument that the Lane Digital Library is built and delivering valuable knowledge resources anytime, anywhere. The full potential of the digital library is just beginning to be tapped, however. The message I'd like to convey to all of our library users is: "begin to incorporate current knowledge management tool capabilities to improve your medical work ... we will work with you to make the tools more useful to your work." Think of Lane as your partner in not just locating knowledge resources, but putting them to work in ways that support and further your work.

Create smart interfaces

Building a digital library is not just about licensing lots of content. Once the content is acquired, libraries need to do what they've been doing for hundreds of years – organize, maintain, preserve, and expose to targeted audiences. These targeted audiences are you and you are our co-developers.

In a climate of information overload, it is necessary to provide knowledge management support and smart integrated access to content through specialty portals and content experts. One of the outcomes of developing a generic clinical portal, for example, was the phenomenon of drinking from a fire hose of clinical information. To address this, Lane has developed a query mapping tool to connect users with the top three clinical resources and has been partnering with our users to develop specialty portals to better integrate the knowledge resources at the point of need. One example of this is the inclusion of LaneConnex links in Epic and Cerner, Electronic Health Record systems for SHC and LPCH.

The LaneConnex Metasearch has been a tool for exposing other kinds of content as well, such as the recently released Bassett Collection of anatomical images. In honor of the School of Medicine's Centennial, a history portal was developed to highlight the school's history as well as Lane's rich historical collections.

Create a learning hub

Important feedback we heard during strategic planning focus sessions in 2004 was that there was no central place to discover learning, training, and workshop opportunities. A quick glance at our quarterly workshops schedule will show that we have been able to provide a dynamic and varied selection of workshop training and support. By partnering with OPA, SPCTRM, ODL, and others we have been able to cosponsor a number of training opportunities and provide access to content from these, including FAQs and multimedia training snippets that can be accessed 24/7 on LaneConnex. Lane liaisons and informationists provide a majority of the in person instruction, reaching 2300 participants each year. They are also available to do tailored sessions for departments and provide information literacy skills training in the medical school curriculum and residency training programs. Liaisons have also made themselves available to assist authors with compliance to the NIH Open Access Policy, which has provided an opportunity for further dialogue on important scholarly communications trends such as open access.

Re-envision the library as place

As print collections are moving out, Lane has been able to reclaim stack space for people. Working with the Student Advisory Committee, we have done a number of prototyping projects for optimal study spaces and will be a furniture test site for the Li Ka Shing Center for Learning and Knowledge in February.

Develop an approach to research for knowledge management

In transforming ourselves to a largely digital library, Lane has become a laboratory for knowledge management. A number of projects focused on saving our users time have centered on the overarching theme of connecting individuals with what they need when and where they need it. Highlights of these projects include the LaneConnex metasearch, the development of specialty portals, and a query mapping tool to connect users with the top 3 clinical resources. As we embark on our next wave of strategic planning, we are eager to evaluate these tools and build on new and existing partnerships with our users to develop additional knowledge management tools that will address needs of information literacy skills, personalization, data mining, and integrating knowledge resources into your workflow.

Thanks to Heidi Heilemann and all of her staff for the significant progress they have made in advancing their strategic initiatives. For more information about Lane, visit <http://lane.stanford.edu>.

Leadership Training in the Biosciences

In past Newsletters I have described a number of the Leadership programs that have been initiated in the School of Medicine and Medical Center including one recently initiated by the medical student leadership. I am now pleased to report that this important trend in leadership training and development includes graduate students in the Biosciences. Of note, this past spring two Biosciences graduate students (Jessica Allen and Amy Radermacher, both Ph.D students in the Immunology Program and Executive Officers in BioMASS) initiated a course that offered the opportunity for Ph.D. students to build skills in leadership and effective communication that would be valuable in any career path. Twenty students were selected for this program through an application process. The selected students participated in weekly presentations and interactive discussions with invited experts from the Law School, the School of Medicine, the Center for Teaching and Learning, the Office of the Ombudsman, and the Center for Mediation and Communication. They focused on topics such as negotiation, mediation, how to handle difficult conversations and resolve conflicts, and how to effectively communicate science to scientific, lay, and media audiences.

This course complements the rigorous scientific training students get at Stanford and allows them to focus on specifically developing the leadership and interpersonal skills crucial in the diverse career paths that Stanford Ph.D. students choose after graduation. The pilot course proved to be very successful, and students reported clear improvements in their leadership skills at the end of the course. The course will be offered again this year with Dina Finan, a Ph.D. student in the Biochemistry Department, joining Amy and Jessica as course directors. Students who are interested in taking the course this year can find more information on the course website (<http://immunol240.stanford.edu/>).

I want to thank Amy Radermacher and Jessica Allen for their tremendous leadership in initiating this program – and also to welcome Dina Finan to this important initiative.

Continued Stellar Outcomes by Renal Transplant Team

Once again the Stanford Adult Kidney Transplant Team is leading the way. The clinical care program is led by Drs. John Scandling, Professor of Medicine, and Stephan Busque, Associate Professor of Surgery, who recently reported the results of the Scientific Registry of Transplant Recipients in which “Stanford is the only center in the nation to achieve statistically higher than expected results in both patient and graft survival at both one and three years after transplantation.” Such results reflect not only leadership but also enormous and dedicated contributions of doctors, trainees, nurses and all the members of the multidisciplinary staff. They also reflect the contributions of the diagnostic laboratories that evaluate and monitor these complex patients – including the Histocompatibility, Immunogenetics and Disease Profiling Laboratory led by Dr. Dolly Tyan, Professor of Pathology, and her staff. I want to thank the clinical, administrative and support services that have achieved these results. Of course, the true beneficiaries are the patients who come to Stanford for their renal transplants. I also hope that these results

serve as a clarion to other clinical services to seek and achieve comparable levels of quality and excellence.

Update from Health Research and Policy

At the January 30th Executive Committee, Dr. Phil Lavori, Professor and Chair of the department of Health and Research Policy, provided an update on HRP. I am pleased to provide Dr. Lavori's summary below:

The Department of Health Research and Policy is the union of 3 divisions, Epidemiology (6 primary UTL, 2 CE, 2 secondary UTL), Health Services Research (3 UTL), and Biostatistics (7 primary UTL, 4 secondary). Numerous courtesy appointments and shared enterprises with other departments demonstrate the collaborative stance of the department, as do its projections outside the University, to the Northern California Cancer Center (NCCC), Kaiser Division of Research, the Palo Alto VA, and the Palo Alto Medical Foundation Research Institute.

Research in the department ranges widely. Recently, Alice Whittemore, and Dee West (of the Epidemiology division), and their NCCC colleagues demonstrated an increased prevalence of BRCA1 mutation among US Hispanic breast cancer patients (particularly the 185delAG frameshift), possibly reflecting the Jewish Diaspora in Spain, and the genetic contribution of Spanish conquistadors of Ashkenazi Jewish ancestry to today's US Hispanics. This finding is relevant to cultural history, but also to diagnostic screening practices.

In HSR, Laurence Baker and his colleagues described the way that health care capacity influences utilization (especially in advanced imaging), often with little regard for effectiveness. Mark Hlatky has recently started a collaboration with Kaiser to develop a high-quality database of treatments and outcomes in heart disease, to investigate the effectiveness of interventions, develop methods for extracting such critical information from medical records, and (not least) better understand the strengths and limitations of such non-experimental research. As the US begins to confront the limits of its ability to deploy resources for health care, these and other initiatives may help guide decisions of momentous consequence.

In Biostatistics, Bradley Efron has developed a new method for dealing with the flood of data from modern high-throughput technologies, such as microarrays, whole genome scans, and proteomics, in which a few true positive findings are buried among false positive findings created from the play of chance on thousands of measurements. The 'local false discovery rate' estimates the proportion of observed findings that are true positives, as one dials up the threshold of strength of evidence, so that an investigator can pick the 'interesting' features for further test. Rob Tibshirani, Trevor Hastie, Efron, and colleagues in Statistics have developed a unified approach to the fundamental problem of regularization, by which an investigator with a classification problem based on a large number of

features (and a paucity of data) can find the optimal balance between overfitting and underfitting. These methods are basic to pharmacogenomics, gene-gene and gene-environment interactions in onset of disease, as well as response to medication, and modern diagnostic methods using ‘-omics’ of all kinds. Mei-Chiung Shih and her colleagues (especially Tze L. Lai of Statistics) have developed new methods of clinical trial design that optimally re-evaluate how often to monitor for early stopping, as results accrue.

HRP plays a major role in medical school and post-graduate education of clinical researchers, especially by participating in the POM and by offering two masters degrees (in Epidemiology, with 26 current students, and Health Services Research, with 14). The Biostatistics faculty teaches and supervises students in the Statistics Department in H&S, which has one of the world’s top-ranked programs, with over half the students interested in a Biostatistics specialization. HRP also contributes to several major SoM efforts, including programs and cores of the Cancer Center, the Clinical and Translational Sciences Award (Spectrum), and many PPGs, training grants, and career development awards in other departments. More than 1/3 of total HRP faculty salary comes from grants and projects administered by other departments, involving 92 non-HRP principal investigators in 44 divisions, departments, or institutes. The department also houses a small Data Coordinating Center (founded by Richard Olshen and led by Balasubramanian Narasimhan), which develops special purpose databases that are oriented to useful output, with particular attention to built-in tools for statistical analysis (the Biostatistics Console), and integration of clinical and basic science data. The DCC currently serves the Lymphoma Program Project, the Blood and Marrow Transplant Program Project, the Immune Tolerance Institute, and the Cancer Center, as well as several other programs.

The department has recently recruited 4 Assistant and one Associate Professor, rejuvenating our demographics, and building a sound base for the future. The disciplines we represent continue to be relevant to the goals of the School, and to the advancement of biomedical science worldwide.

Appointments and Promotions

- Juergen Willman has been appointed to Assistant Professor of Radiology, effective 2/01/09.
- Dolores Gallagher-Thompson has been reappointed to Professor (Research) of Psychiatry and Behavioral Sciences, effective 2/01/09.