September 27, 2017

TO: Members of the Board of Trustees

FROM: Andrew Agwunobi, MD, MBA  
Chief Executive Officer, UConn Health  
Executive Vice President for Health Affairs

RE: Reports of Endowed Chairs for the period of July 1, 2016 to June 30, 2017

RECOMMENDATION:

That the University of Connecticut Board of Trustees approve the Annual Reports for the following Endowed Chairs:

1. Human Genetics
2. Infectious Disease
3. Transfusion Medicine

BACKGROUND:

The three endowed chairs referenced above were established during the Fiscal Year 1988 to 1989 as authorized by CGS 10a – 20a. Subsection (f) of the statute states the “Board of Trustees shall submit annual reports to the Board of Governors concerning their expenditures.” The reports presented today are for the period of July 1, 2016 to June 30, 2017.
### The University of Connecticut Health Center
#### Endowed Chair in Human Genetics
300041-10600-10

<table>
<thead>
<tr>
<th></th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beginning Cash Balance</strong></td>
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<td>$246,337.11</td>
<td>$288,977.33</td>
<td>$277,187.31</td>
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<tr>
<td><strong>Receipts:</strong></td>
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<tr>
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<tr>
<td>Supplies</td>
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<tr>
<td>Equipment</td>
<td></td>
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<tr>
<td>Change in accruals</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Total Expenditures</strong></td>
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<td>89,852.80</td>
<td>169,252.00</td>
<td>98,828.00</td>
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<tr>
<td><strong>Ending Cash Spendable Balance</strong></td>
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<td>$288,977.33</td>
<td>$277,187.31</td>
<td>$186,903.31</td>
<td>$168,777.41</td>
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</tbody>
</table>

* FY17 are not final and may change due to year end adjustments
THANK YOU MESSAGE

One of the responsibilities of my role as Director of the Center for Regenerative Medicine and Skeletal Development is to ensure that technical skills, biological resources and instrumentation essential to the type of science performed by members of our group and their collaborators will be maintained and available. With an ever-shrinking budget for maintaining infrastructure, the revenue produced from the Health Net, Inc. Chair in Human Genetics allows us to be operational and to provide limited fee-for-service activities to external researchers. Thus the chair has enabled us to raise the additional funding that in total is crucial for us to continue to offer these services to UConn researchers.

TEACHING AND RESEARCH HIGHLIGHTS

Discover new genes that cause high or low bone mass
We are examining the bones of mice generated by an international consortium that is inactivating each gene, one by one, from the mouse genome. We are finding that greater than 10% of unselected mice with a gene knock out have a major variation in bone mass. Deeper studies distinguish if the variation is due to an effect on the rate of formation or destruction of bone. This data projects that 2000 or more genes contribute to the development or resistance to osteoporosis in humans and supports the concept that any individual’s bone health status is the product of multiple genes that influence the formation or destruction of the skeleton.

Demonstrate the human induced pleuripotential cells (iPSC) can be directed to make human bone and cartilage tissue in a mouse
iPSCs derived from a patient with severe genetic bone disorder (osteogenesis imperfect) makes limited amount of bone in the mouse, but revert to normal formation is the underlying genetic mutation is corrected using CRISPR/CAS9 technology. This cell system provides a method to study rare human genetic diseases affecting bone and cartilage that are unique to a specific individual. It has both diagnostic and therapeutic potential.

Develop methods for studying the tissue structure that joins a tendon or ligament to bone (called the enthesis)
This structure has to accommodate the rigidity of bone with the dynamic motion of the tendon/ligament. How this structure forms and responds to injury was revealed using the mouse models and histological techniques that were developed in our laboratory.
SERVICE AND PUBLIC ENGAGEMENT

Stem cell therapy is being exploited by non-FDA approved clinics touting miraculous cures for a myriad of disease. These clinics base their claims on poorly performed research studies and patient testimonials. Along with a researcher at NIH, we convinced our professional bone societies (American Society for Bone and Mineral Research, and Orthopedic Research Society) to form a ASBMR/ORS task force that will establish the research criteria that need to be met in a research article to support a claims of positive outcome from a cell based treatment strategy. We want the serious scientific community to set standards that any researcher has to meet to claim a positive outcome. This will prevent these clinics refer to bad studies as proof of their approach and should influence FDA when any formal request for a clinical trial of a therapy. My laboratory provided the leadership and database support to collect the information that will be the basis of the report that will be published later this year.

COMPLETE ACTIVITIES FOR FISCAL YEAR 2016–2017

Teaching and Mentoring

Courses Taught

• A three-hour lecture set followed by two hours of student conferences for the second year students on the topic of sex differentiation and disorders of sex differentiation including congenital adrenal hyperplasia.

Students Advised

• I have avoided taking PhD student because I feel they should be trained by our junior research faculty. Instead, I have had collaborations with faculty at Storrs (Dr. Mei Wei) and UConn (Dr. Yusuf Kahn, Dr. Lakshmi Nair) to use our instrumentation and animal resources.
• Most of my advisory effort was focused on Dr. Nathaniel Dyment, a postdoctoral fellow. He was successful in obtaining an NIH K99 award for career development. This past year he completed the training component of the grant and accepted a tenure track faculty position at the University of Pennsylvania.
• A junior faculty member, Dr. Sumit Yadaf, for whom I have been the primary mentor just received notification that he too will be receiving a K award. He will perform the mentored portion of the award in my laboratory environment, but hopefully will stay on permanently within the Orthodontic Department of the Dental School.

RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITIES

New Research Grants

• In addition to the non-competitive renewals obtained on grants R01 AR063702 (Skeletal Phenotyping of KOMP Mice) and R01 AR064381 (Targeted Correction of Dominant Mutations of Type I Collagen Causing Severe OI), I received a new grant (R13 AR070574) to support a workshop to teach the cryohistological methods developed in the laboratory. However due to time and personnel constraints, I decided to return the grant unused.
Journal Articles


Conference Proceedings


Seminars

• Histology workshop at UCH – 1/1/16 and 3/18/16 and 5/10/16 (not part of the R13 grant that was returned).
• Samson Leo, organizer of the International Conference and Expo on Musculoskeletal Regeneration in Chicago on 5/5/16. Present lecture on the histological evaluation of cell based therapy of skeletal defects.
• Dr. Pamela Robey’s group at NIDCR/NIH on 6/1/16. Group talk leading to submission of a grant with that group on 4/17 to use iPSC to study the disease, fibrodysplasia of bone.
• Dr. Richard Kruse, Department of Orthopedics, Dupont Children’s Hospital on 6/2/16. Discussed the use of corrected cell therapy for the orthopedics procedures use for the disease, osteogenesis imperfect.
• Dr. Zhangui Tang, Central South University, Changsha, China on 6/25/16. Presented to the International Symposium on the Advance in Stomatology Research. Title was the genetics of skeletal disease.
• Invited speaker at the 2016 Annual meeting of Material Research Society in Boston MA on 12/5/16 The talk was given in Symposium BM3: Biomaterials for Regenerative Medicine and titled, Cellular and functional evaluation of bony repair using GFP reporter mice and fluorescent cryohistological techniques.

SERVICE

Service to the University, Profession, or Community

• NIH study section for COBRE: Served on a panel that reviewed competitive renewal of the COBRE granting mechanism.
• Supporting the development of a stronger mammalian biology program at the University of Hartford. A prior postdoctoral student, Yingcui Li, PhD, has become a faculty member there and she wants a selected student to have a research opportunity. We have helped by allowing the student and Ms. Li to use some of our laboratory space during the summer months, and we are helping her assemble an R15 research grant proposal that will cover some of the costs for expanding the program in time and number of students.
The University of Connecticut Health Center
Endowed Chair in Infectious Diseases/AIDS Research
631129-10141-10

<table>
<thead>
<tr>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning Cash Balance</td>
<td>$77,734.78</td>
<td>$49,368.78</td>
<td>$31,254.92</td>
<td>$36,703.75</td>
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**Receipts:**

Interest Transferred from DHE:

<table>
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<th>FY13</th>
<th>FY14</th>
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**Expenditures:**

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<th>FY15</th>
<th>FY16</th>
<th>FY17*</th>
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<tbody>
<tr>
<td>Salaries and Wages</td>
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Ending Cash Spendable Balance

<table>
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<th>FY13</th>
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<th>FY15</th>
<th>FY16</th>
<th>FY17*</th>
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</thead>
<tbody>
<tr>
<td>-</td>
<td>$49,368.78</td>
<td>$31,254.92</td>
<td>$36,703.75</td>
<td>$29,724.75</td>
<td>$34,905.28</td>
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* FY17 are not final and may change due to year end adjustments

Endowment principal balance as of 12/31/16

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M:\BOARD OF DIRECTORS 2\BoD Meeting Materials\2017\September 18\Copy of DHE endowed chair finance rep FY17.xlsxInfect Disease
THANK YOU MESSAGE

I would like to express my gratitude to the donors. The proceeds from this program support educational programming related to infectious diseases for residents, fellows, and students.

TEACHING AND RESEARCH HIGHLIGHTS

Through this program, I have been able to support direct mentorship of medical students, residents, and fellows as they learn the field of infectious diseases in a myriad of clinical settings, including under-resourced international settings. In addition to the direct medical skills imparted, trainees learn valuable cross-cultural and integrative skills important for any practicing clinician in a multi-ethnic world.

SERVICE AND PUBLIC ENGAGEMENT

Outreach to a variety of practice settings and sites for student involvement have occurred, including sites in Uganda, Dominican Republic, Guam, Peru, Haiti, Sri Lanka, and Guatemala.
COMPLETE ACTIVITIES FOR FISCAL YEAR 2016–2017

Teaching and Mentoring

Courses Taught
- M200.010.15 Mechanisms of Diseases – Infect Disease, Section Leader, Yr 2 Medical and Dental
- M200.50.15 Mechanisms of Diseases – Nervous System, Lecturer, Yr 2 Medical and Dental
- SCHOLARSHIP course – Leader /content expert Yr 1 Medical
- Community Health Research Methods – 2 (2016) Instructor Yr 2 Medical
- Advanced Clinical Problem Solving – Instructor Yr 2 Medical
- Microbiology (PHD program) – Instructor, PhD students
- Human Health and Development – Instructor Yr 1 Medical
- CoRE A and B – Content expert Yr 1 Medical
- VITALS – Content expert Yr 1 Medical
- Community Research Individual Learning Opportunity - Global Health – Course Leader, Yr 1 Medical

Students Advised
Current medical and dental student advising (graduate level):
- Kaitlin Markoja – Pregnancy, delivery in Uganda
- Jessica Malcolm – Chikungunya in Jamaica
- Veronica Schmidt – Nutrition in Puerto Rico
- Julia Koretski – Mental Health in Uganda
- Brian Stenson – Knowledge of reproductive health, rural Costa Rica
- Ryan Duggan – Tropical medicine curriculum
- Sonny Caplan – Medication adherence in migrant farm workers
- Sam Baron – Educational methods in Costa Rican medical students
- Lyubina Yankova – Helicobacter pylori in Uganda
- Kyle Shin – Nutrition in Dominican Republic
- Spencer Beck – Hypertension in Dominican Republic
- Rebecca Zweiffler – Women’s reproductive health in Panama
- Kousanee Chhed – Eye health in Oregon
- Alex Werne – A tool for pediatric antibiotic dosing in developing areas
- Jessica Gordon – A tool for antiseizure medication dosing in developing areas
- Jason Adler – Assessing CSF cellularity using urine dipstick testing
- Kwaku Ohemeng – Online microbiology resource www.megamicro.info
- Benjamin Aranow – Online microbiology resource www.megamicro.info
- Gian Grant – Online microbiology resource www.megamicro.info
- Richard Jiminez – Online microbiology resource www.megamicro.info
- Adam Barthalomeo – Use of protective measures with TNF inhibitors
- Nicholas Bellas – Diabetes in Nicaragua
- Antea DeMarsalis – Substance use (Betalquid) in Sri Lanka
- Alyssa DiCosmo – Helicobacter pylori acquisition in Uganda
• Faith Doneghey – Hepatitis C in Guam
• Megan Grammatico – Helicobacter pylori in Uganda
• Alex Guillano – Diabetes control and Machismo in Nicaragua
• Rabale Hasan – PrEP in UConn’s HIV clinic
• Shaan Kamaal – Color blindness correction lenses
• Emily Keller – Dental assessment in Honduras
• Jennifer Lawson – Genetics of kidney disease in Sri Lanka
• Tiffany Miller – Chlamydia in Guam
• Chidinma Okafor – Dental knowledge/attitudes/barriers/practice in Dominican Republic
• Christine Parsons – Maternal health in rural Uganda
• Rashni Pashankar – HIV PrEP modalities in Providence RI
• Brooke Schuman – Special needs children and resources in Nicaragua
• Vruksha Upadhyay – Helicobacter pylori in Dominican Republic
• Christine Yang – Breast Cancer perceptions in Haiti

RESEARCH, SCHOLARSHIP, AND creative ACTIVITIES

New Honorific Awards
• University of Connecticut Provost’s Award for Excellence in Public Engagement, 2016

Journal Articles

Books and Book Chapters

Conference Proceedings
• Koretski J, Dieckhaus K: Healthcare Workers’ Self-reported Knowledge, Attitudes, and Practice Implications Regarding Mental Health Care in Rural Uganda, Consortium of Universities in Global Health (CUGH), 2016

Other Works of Scholarship
• Consortium of Universities in Global Heath: Evert et al: Global Health Education Competencies Tool Kit. Competency 5b: Demonstrate diplomacy and build trust with community partners and Competency 5c: Communicate joint lessons learned to community partners and global constituencies; http://cugh.org/resources/2063; 2017

SERVICE

Service to the University, Profession, or Community
• UConn Global Affairs Advisory Board
The University of Connecticut Health Center
Endowed Chair in Transfusion Medicine
300037-10149-10 (and 35021)

<table>
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<th>FY17*</th>
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<tbody>
<tr>
<td><strong>Beginning Cash Balance</strong></td>
<td>$326,165</td>
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<td>$423,209</td>
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<td>Equipment</td>
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<tr>
<td>Change in accruals</td>
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<td>$2,391</td>
<td>$1,693</td>
</tr>
<tr>
<td><strong>Ending Cash Spendable Balance</strong></td>
<td>$383,544</td>
<td>$423,209</td>
<td>$422,118</td>
<td>$419,727</td>
<td>$422,141</td>
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* FY17 are not final and may change due to year end adjustments

Endowment principal balance as of 12/31/16 $ 572,306