

Department of Health and Human Services

National Institutes of Health

National Institute of Nursing Research

Minutes of the National Advisory Council for Nursing Research

September 17–18, 2019

The 99th meeting of the National Advisory Council for Nursing Research (NACNR) was convened on Tuesday, September 17, 2019, at 12:00 p.m. in Conference Room D, Building 45, Natcher, National Institutes of Health (NIH), Bethesda, Maryland. The first day of the meeting was an open session that started at 12:00 p.m. and adjourned that same day at 4:30 p.m. The closed session of the meeting, which included consideration of grant applications, was convened on Wednesday, September 18, 2019, at 9:00 a.m. and continued until adjournment at 12:15 p.m. Dr. Ann Cashion, Acting Chair, NACNR, presided over both sessions of the meeting.

OPEN SESSION

I. CALL TO ORDER, OPENING REMARKS, COUNCIL PROCEDURES, AND RELATED MATTERS—Dr. Ann Cashion, Acting Director, National Institute of Nursing Research (NINR)

Dr. Cashion called the 99th meeting of the NACNR to order and welcomed all Council members, visitors, and staff. She introduced new Council members Drs. Peter Lewin and Eun-Ok Im and noted the absence of Council member Dr. Jeffrey Kelly.

Conflict of Interest and Confidentiality Statement

Dr. Nara Gavini, Acting Executive Secretary, NACNR, and Chief, Office of Extramural Programs, NINR, noted that the meeting was being webcast. He reminded attendees that NIH is a smoke-free campus. Dr. Gavini asked Council members to update their addresses on the meeting roster circulated during the meeting. Dr. Gavini referred to the conflict of interest and confidentiality statements provided in the Council materials and indicated that specific instructions would be provided at the beginning of the closed session on Wednesday.

Minutes of the Previous NACNR Meeting

Council members received the minutes of the May 21–22, 2019, NACNR meeting by email. A motion to accept these minutes was made, seconded, and approved unanimously. The approved minutes of each

NACNR meeting become part of the Institute's official record and are posted on the NINR website (www.ninr.nih.gov).

Dates of Future Council Meetings

Council members were asked to confirm their calendars for the following meeting dates and to contact Dr. Nara Gavini about any conflicts or expected absences.

2020

January 14–15 (Tuesday–Wednesday)

May 19–20 (Tuesday–Wednesday)

September 15–16 (Tuesday–Wednesday)

2021

January 26–27 (Tuesday–Wednesday)

May 18–19 (Tuesday–Wednesday)

September 14–15 (Tuesday–Wednesday)

II. The NINR-Led Symptom Science Center as an NIH Resource—Dr. Michael Gottesman, Deputy Director, NIH Intramural Program

Dr. Gottesman briefly described the NIH intramural program and his perception of the unique and important contributions the NINR-led Symptom Science Center (SSC) will make as it leads NIH on its path to precision health through better understanding and symptom management. The SSC manifests a clear vision for nursing research.

Over the past decade, NINR has established a strong position at the crucial link between the search for cures and delivery of treatment, clearly fitting within the intramural program's model of bench to bedside and back again. Today, as a result of nursing science, patients receive far better care for treatment side effects, which in turn leads to improved recovery rates and prolonged life. Although the NINR mission is not disease- or organ-specific, one would be hard-pressed to name any NIH clinical program that does not benefit from nursing science. With the creation of the SSC, NINR is making it easier for the broader NIH community to tap into its expertise.

Core functions of the SSC include standardized assessment and treatment outcomes and prediction of patient-related clinical outcomes. Patient reported outcomes (PROs) that grew out of the NINR pain research portfolio include reports of pain, fatigue, physical functioning, emotional distress, and social role participation. Computer adaptive testing (CAT) is part of a framework for symptom assessment and collection of PROs and can improve patient reporting and reduced response burden. The Patient Reported Outcomes Measurement Information System (PROMIS) is designed to provide the clinical research

community with a rigorously tested PROs measurement tool that uses recent advances and information technology psychometrics and qualitative, cognitive, and health survey research. With the skillful use of these tools, NINR can help the NIH intramural program meet several long-term goals (e.g., development and delivery of personalized medicine and cell-based therapies, overcoming drug resistance to combat inflammatory diseases).

Dr. Leorey Saligan is leading the SSC, with support from research staff of four NINR intramural branches—biobehavioral, symptoms management, tissue injury, and advanced visualization.

Dr. Gottesman concluded by summarizing ways that NINR has contributed to the positive environment at NIH and acknowledged the contributions of Dr. Cashion throughout her tenure at the Institute, particularly while serving as Acting Director.

III. NINR DIRECTOR’S REPORT—Dr. Ann Cashion, Acting Director, NINR

The Director’s report focused on activities and news from the Department of Health and Human Services (HHS), NIH, and NINR since the Council met in January. Highlights of Dr. Cashion’s report included:

Director Search— Dr. Cashion announced that she will be retiring from NINR and NIH effective September 30. Dr. Lawrence Tabak will be Acting Director of NINR effective October 1. She introduced Dr. Tara Schwetz, Acting Deputy Director of NINR and Associate Deputy Director of NIH. NIH leadership is invested and engaged in identifying the right candidate from the nursing science community to fill the NINR Director position. Applications are due by Monday, November 18, 2019. The position description is available at <https://hr.nih.gov/jobs/search/job-1567756>.

Budget Update—Dr. Cashion reviewed recent appropriations history. The Fiscal Year (FY) 2019 budget included a 3.1 percent increase for NINR and a 4.7 percent increase for NIH, much of which was allocated to large initiatives such as Alzheimer’s disease (AD) research and the “All of Us” program. Until a federal budget is approved for FY2020, the budget remains the same.

NINR distribution of funds for FY2018 (the most recent completed FY) shows the Institute’s strong commitment to investigator-initiated research and training awards that enable scientists to prepare to conduct independent nursing research. The 8 percent allocated to funding NINR’s highly active intramural research program is slightly below the 10 percent average across NIH Institutes.

HHS and NIH News—Dr. Cashion reported that former NIH Director Dr. James Wyngaarden passed away recently, and former National Library of Medicine (NLM) Director Dr. Donald Lindberg passed away in August.

The All of Us research program has enrolled more than 230,000 people to date, 80 percent of whom are from historically underrepresented populations in biomedical research. The Common Fund PROMIS program is sunsetting effective September 30.

NIH's many Parent Announcements will be phased out over time and replaced by Notices of Special Interest (NOSI), streamlining the way interest in these topics is announced. Full Funding Opportunity Announcements (FOAs) will be issued for Requests for Applications (RFAs).

Dr. Cashion mentioned a selection of NIH funding opportunities in which NINR participates; topics include health of transgender and gender non-conforming populations, environmental influences on aging, applying biopsychosocial perspectives to self-management of chronic pain, dissemination and implementation research in health, and the contribution of sleep disturbances to pain. Announcements are available at <http://grants.nih.gov/grants/guide>.

NINR News—Dr. Cashion announced that NINR Council member Dr. Ida Moore has been named Dean of the University of Arizona College of Nursing. Earlier today, Dr. Jean McSweeney presented the NINR Director's lecture on cardiovascular symptoms primarily in women. The next NINR Director's lecture will be presented by Dr. Patricia Stone on November 19 and will focus on the rigors of conducting real-world comparative and economic evaluations in the context of improving quality of care.

NINR-supported investigators Drs. Sarah Rossetti and Tracey L. Yap were among research scientists who received the Presidential Early Career Award for Scientists and Engineers (PECASE), the highest honor the U.S. government bestows on outstanding scientists and engineers who are beginning their independent research careers and show exceptional promise for leadership in science and technology.

Launch of the NINR-led Symptom Science Center on June 27, 2019, was well attended. Video is available on the NINR website events page.

Dr. Cashion was an invited panelist at a Chicago Town Hall Meeting convened by the Committee on the Future of Nursing 2020-2030. The event was one of three regional meetings designed to gather insights on how to advance the profession of nursing toward creating a national culture of health, reducing health disparities, and improving the health and well-being of the U.S. population.

The two-day "Strengthening the Impact of Community Health Workers on HIV Care and Viral Suppression in the U.S." conference was led by NINR and other NIH partners to launch an initiative funded by the NIH Office on AIDS. The initiative aims to establish evidence for engaging community health workers in closing the gap between antiretroviral therapy prescription and viral suppression, a critical step to preventing the transmission of HIV.

NINR has produced a short [guidance document](#) summarizing specific instructions for NINR F31/F32 applicants proposing to gain clinical trial (CT) research experience.

NINR's Dr. Jeri Miller will represent the Institute as the non-sponsor federal partner in conducting a Systematic Review of Integrating Palliative Care with Chronic Disease Management in Ambulatory Care. The Agency for Healthcare Research and Quality (AHRQ) is convening groups to report on the benefit of patient access to palliative care as well as interdisciplinary services provided by professionals trained in hospice and palliative care. NINR's Palliative Care Research Cooperative Group is editor for the methodological review section of the *Journal of Pain and Symptom Management* and is collaborating with the International Palliative Care Family Carer Research Collaboration to develop and disseminate evidence- and consensus-based family caregiver outcome measures and present symposia at the 2020 European Association of Palliative Care Research meeting.

In August, NINR released two new funding opportunities that encourage research to determine requirements and best practices for palliative care in home and community settings. Standard due dates apply, with the first due date set for October 5, 2019.

NINR-Funded Science Advances—Dr. Cashion highlighted recently published findings from research conducted by NINR extramural grantees.

- A randomized CT testing [two types of insomnia treatment in postmenopausal women](#) found that sleep restriction and cognitive-behavioral therapy reduced depressive symptoms, maladaptive thinking, and pre-sleep somatic hyperarousal.
- An exploration of associations between demographic, clinical, and symptom characteristics and variations in candidate [gene polymorphisms in postmenopausal women](#) with and without cancer demonstrated that considering a combination of genotype and symptoms can help identify who will respond to treatment.
- A pilot study found that an [intensive care unit sleep promotion protocol](#) overall decreased in-room activity and sound, which provided better opportunities for patients to sleep.
- A randomized CT found that [omission of prefeeding gastric residual evaluation](#) among extremely preterm infants increased delivery of enteral nutrition and improved weight gain, which led to earlier hospital discharge. These results may translate into evidence-based practice.
- Findings from [a study of preterm infants](#) suggest that early-life neonatal intensive care unit (NICU) stress may significantly influence the developing gut microbiome, which is important to NICU practice and future microbiome research.

- Investigators conducting a cross-sectional study of measuring [health status and symptoms in heart failure patients](#) concluded that patient-centered interventions should focus on modifiable risk factors that reduce dyspnea, improve functional status, and enhance engagement in social roles to improve the health status of patients with heart failure.

Dr. Cashion listed a selection of NINR-sponsored funding opportunity announcements available at www.ninr.nih.gov/ResearchAndFunding/DEA/OEP/FundingOpportunities/.

NINR Training Opportunities—Dr. Cashion described recent NINR training activities, including the month-long Summer Genetics Institute (SGI) held in June 2019; the NINR Methodologies Boot Camp, which addressed digital health data and smart technologies and included a panel session on the All of Us initiative; the NINR Division of Intramural Research (DIR) Summer Trainees program; the Graduate Partnership Program (2020 application deadline is December 2, 2019); and NINR trainee participation in the NIH Postbaccalaureate Poster Day.

Staff News—Dr. Cashion congratulated four NINR staff who received NIH Director’s Awards: Drs. Michelle Hamlet (two awards), Martha Matocha, Brian Walitt, and Rebekah Rasooly.

IV. OVERVIEW OF THE NINR INTRAMURAL PROGRAM—Dr. Jessica Gill, Deputy Scientific Director, NINR

Dr. Gill presented an overview of the [NINR intramural program](#) focus, staffing, and current activities. The DIR conducts research on molecular and biobehavioral mechanisms underlying systems, which involves studying how environmental influences (e.g., behavior, lifestyle, and diet) and individual genetic variability affect individual health outcomes. Program staff also design and conduct clinical interventions to alleviate symptoms. NINR intramural scientists follow the principles of the NIH Symptom Science Model: following presentation of a symptom, the symptom undergoes phenotypic characterization, biomarkers are identified, and clinical applications to reduce symptoms are developed.

Clinical Director Dr. Suzanne Wingate oversees all clinical aspects of the on-campus research program and the majority of the clinical program. She is the first nurse appointed as Vice Chair of the Medical Executive Committee. As Training Director, Dr. Pamela Tamez leads training, education, and career development of nurse scientists in symptom science. In addition to leading the new NIH SSC, Dr. Leorey Saligan is Chief of the Symptom Biology Unit; his research focuses on characterizing distinct and shared functional pathways of fatigue and associated molecular and biobehavioral underpinnings.

Dr. Paule Joseph, a Lasker Clinical Research Scholar with a joint appointment at the National Institute on Alcohol Abuse and Alcoholism (NIAAA), studies molecular and neural mechanisms associated with sensory symptoms experienced by people with metabolic conditions that contribute to difficulties with

self-management and adherence to dietary modifications. Dr. Joseph mentors Dr. Markos Tesfaye, a visiting fellow from Ethiopia participating in the NIH African Postdoctoral Training Initiative (APTI). Dr. Tesfaye will complete postdoctoral training at NIH and return to a laboratory at his home institution, with additional funding from the Bill & Melinda Gates Foundation.

Dr. Gill described her work as Chief of the Brain Injury Unit. Recently appointed as an NIH tenured track investigator, her unit determines predictors of poor outcomes following concussions, blast exposures, and traumatic brain injuries (TBIs). She described a large concussion study that followed college athletes from prior to collegiate exposure to sports-related concussion through four years in collegiate play (phase 1) and will continue to follow them as they go into the workplace and begin families. The study identified objective biomarkers to inform return-to-play decisions and thus increase safety of athletes.

The Advanced Visualization Branch is led by Dr. Patricia Brennan, Director of the National Library of Medicine. The Branch focuses on immersive visualization technologies that enable rehearsal and stimulate problem solving for individuals with complex disease.

Dr. Gill concluded by describing the Cross-Cutting Research Omics Lab managed by Dr. Hyungsuk Kim. Omics Lab staff teach leading-edge technologies to NINR fellows and trainees. This year, the Lab added capability for RNA sequencing in single cells as well as advances in exosomes.

ANNOUNCEMENT OF VISITORS

Dr. Cashion announced the names of visitors and encouraged attendees to take advantage of the upcoming break to meet them.

V. NINR LED-SYMPTOM SCIENCE CENTER: A PRECISION-BASED HEALTH INITIATIVE—Dr. Leorey Saligan, Acting Chief, Symptom Science Center, NINR

Dr. Saligan presented an overview of the Symptom Science Center, which is dedicated to conducting research on molecular and behavioral mechanisms underlying systems. Through this process, the SSC uses approaches that can capture subjective symptom experience and explore individual vulnerabilities from symptoms affecting function and performance. The focus is guided by the Symptom Science Model. The SSC goal is to promote discovery and inform personalized approaches to symptom management. The SSC is designed to serve as a trans-NIH resource where interdisciplinary research teams assemble around common symptoms that affect quality of life and tackle symptom research challenges such as the capacity to investigate symptom clusters and link biologic markers and subjective symptom experiences of patients.

Dr. Saligan outlined the history of the SSC. Following a series of intramural and extramural scientist interviews in 2015, the SSC mission, vision, and objectives were established at a roundtable. The SSC clinic, which opened its doors one week ago, is a hub for symptom phenotyping and management and a venue for collaborative studies. Intramural contributions to the Common Data Repository for Nursing Science (cdRNS), a repository of data collected by NINR-supported extramural research, include common data elements developed by a collaboration between the NINR DIR and the NIH Clinical Center Nursing Department. The NINR lab contributes expertise for conduct of innovative approaches using omic technologies by trans-NIH collaborations and access to other NIH core labs.

The SSC is building partnerships with NIH Institutes and Centers (ICs) and initiatives (e.g., the National Center for Complementary and Integrative Health [NCCIH] Pain Center and the All of Us initiative). For example, the SCC is collaborating with the National Heart, Lung, and Blood Institute (NHLBI) and the National Institute on Mental Health (NIMH) animal core labs to develop animal symptom models. This month, the SSC will meet with senior leadership of the Oncology Nursing Society (ONS) and the International Society of Nurses in Genetics (ISONG).

The SSC is committed to training, with an aim toward developing a strong cadre of nurse scientists; building a scientific workforce that is innovative, multidisciplinary, and diverse; and providing a variety of training opportunities for scientists and trainees at all career levels, particularly those at an early career stage (e.g., grants, on-campus trainings). Dr. Cashion already mentioned several well-established NINR training programs. The SCC's first postdoctoral Fellow started last week, with support from NINR and the Robert Wood Johnson Foundation; this Fellow will be mentored in grant writing and receive on-campus training to build lab skills. The SSC training curriculum will incorporate rotations through different NINR groups and the SSC clinic in order to expose trainees to different approaches for improving the rigor of their investigations.

VI. NINR AND NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE (NINDS) SYMPTOM SCIENCE RESEARCH COLLABORATIONS—Dr. David Brody, Director, Center for Neuroscience and Regenerative Medicine, NINDS

Dr. Brody presented “One Bite at a Time: Clinical Trials for Individual Symptoms of Traumatic Brain Injury.” He provided a review of pitfalls of failed TBI CTs, a framework for future TBI trials, and an example of a domain-specific, symptom-focused, controlled CT that employed advanced technology.

Numerous large, late-phase CTs have failed to translate a therapeutic for TBI. Potential reasons include limitations of animal models, heterogeneity of TBI and/or sample size insufficiency, as well as trial design, patient selection, and outcome issues. Large, acute-phase trials in moderate to severe TBI have

not been successful despite substantial effort. The list of evidence-based treatments in TBI is short. Most treatment approaches are based on “clinical experience.” Potential solutions include focusing on prevention (e.g., auto safety, helmets, balance training), expanding basic science research, and conducting a rigorously designed, multicenter, randomized, blinded, controlled CT that focuses on one issue, symptom, or subdomain.

The latter solution—TBI trials focused on a single issue—would require a network of partner clinical trial sites and, ideally, a single Institutional Review Board (IRB). Bayesian adaptive designs would identify subsets of patients likely to benefit from specific treatments and domain-specific primary and secondary outcome measures. Overall, this platform approach would reduce time, costs, and logistical barriers associated with individual trials. In this way, clinical trials for 30 candidate treatments could be conducted in 10 years at the same cost as 10 stand-alone trials.

Dr. Brody presented an example of a domain-specific pilot trial of a candidate treatment for TBI: Individual Connectome Mapping-Based Transcranial Magnetic Stimulation for Depressive Symptoms in TBI Patients. The trial focused on mood disorders in a population that had experienced concussive and moderate injury with depression secondary to TBI. Subjects received individualized repetitive transcranial magnet stimulation (rTMS) of the dorsal attention network (DAN) and default mode network (DMN). Dr. Brody reported that apathy related to fatigue was the symptom that showed the greatest improvement.

Planning is under way for a large multicenter rTMS trial using Bayesian adaptive design for depressive symptoms after TBI. Dr. Brody hopes that the one-bite-at-a-time approach will dramatically reduce the time and effort required to bring improvements in quality of life to patients.

MITOCHONDRIAL FUNCTION AND FATIGUE—Dr. Rebekah Feng, Fellow, System Biology Branch, Symptom Science Center, NINR

Dr. Feng defined *pathological fatigue* as a lack of energy in both the physical and cognitive domains that is not in proportion to recent activity and not relieved by sleep. Fatigue often is observed in sleep/wake disorders, multiple sclerosis, stroke, and cancer.

Recent studies have shown that fatigue in both the central and peripheral domains is related to performance over time (rather than peak performance) and associated with increased cognitive interference. Investigators hypothesize that this may be due to impairment in the executive function domain.

Studies have provided evidence of an immune component of fatigue pathogenesis. Dr. Peng posed the question: Why do some people with the same kind of cancer and treatment develop persistent fatigue while others don't? The answer may lie in intrinsic genetic vulnerability.

Mitochondria are the main supplier for adenosine triphosphate (ATP) within a cell and play important roles in calcium regulation, apoptosis, and redox signaling. They have been implicated in a variety of psychiatric disorders. Some evidence suggests that mitochondrial dysfunction may play a role in fatigue. In a study of post exercise mitochondrial dysfunction, maximal respiration and spare respiratory capacity in healthy controls increased from baseline to 24 hours after exercise. In fatigued subjects, these levels remained flat or decreased. This suggests that mitochondrial response to stressors differs between healthy and fatigued individuals.

Dr. Feng concluded that fatigue is both central and peripheral and may result from intrinsic genetic vulnerabilities that dispose patients to mounting an exaggerated immune response to oxidative stress. Combined with external stressors, these vulnerabilities lead to fatigue. Inflammation resulting from cancer or cancer therapy may lead to neurotoxicity and mitochondrial dysfunction. Data from fatigued patients and *in vivo* models demonstrated peripheral and central mitochondrial dysfunction.

VII. LINKS BETWEEN SLEEP, FATIGUE, AND BRAIN INJURIES—Dr. Vivian Guedes,
Fellow, Tissue Injury Branch, NINR

Traumatic brain injuries are induced structural injuries and/or physiological disruptions of brain function resulting from an external force. Fatigue affects between 30 and 80 percent of TBI patients, and sleep disturbances affect 30 to 70 percent. These symptoms are important because of their impact on physical and emotional health and mental acuity. Excessive daytime sleepiness is one of the main symptoms of many primary sleep disorders. TBI patients underestimate their level of daytime sleepiness compared with people without TBI.

Dr. Gill's laboratory is focusing on fundamental questions about TBI, including biomarkers to predict recovery, risks related to multiple TBIs, biomarkers associated with TBI-related chronic symptoms, and the role of sleep. A recent study of patients with mild to severe TBI found associations between exosomal neurofilament light chain (Nfl) and fatigue symptoms one year post-TBI.

A new study in sleep and fatigue aims to determine differences in objective sleep measures determined by polysomnography data, comparing military personnel who have sustained a TBI with and without significant fatigue symptomology. The study may shed light on mechanisms underlying sleep problems and fatigue symptoms following TBI to improve treatment and outcomes.

VIII. PANEL DISCUSSION— Drs. Brody, Feng, and Guedes

Council members recommended incorporating social determinants and environments in the sleep and fatigue studies, including cumulative and historical trauma issues in members of native populations. Dr. Brody noted that environment is the main domain of intervention in cognitive behavioral therapy.

Tailoring approaches to the population of interest is critical for efficacy. Dr. Gill noted that TBI acquired in combat is different from isolated TBI, and many people enter military service with pre-existing head injuries.

Council suggested that investigators take advantage of blood and tissue banks as well as the NINR-funded [Omics Nursing Science & Education Network \(ONSEN\) website](#).

IX. NINR DURING TRANSITION—Dr. Lawrence Tabak, Principal Deputy Director, NIH

Dr. Lawrence Tabak thanked Dr. Cashion for her work at NINR and NIH and explained that the institutional agenda and strategic plan still stand. There is no intention to change the direction of the Institute’s research agenda during this period of transition. He and Dr. Schwetz will listen carefully to the wise advice of Council and look at how to enhance and strengthen processes and infrastructure.

Dr. Tabak recommended that staff prepare for the arrival of the new permanent Director by developing arguments and gathering evidence to support recommendations. A series of meetings with various stakeholder groups has been planned for October, and there will be additional opportunities to continue those conversations. The goal is to strengthen what is already a wonderful Institute that serves as the intellectual underpinning of the profession.

Dr. Tabak characterized the ideal candidate as a leader who can sit at the table of IC directors and the NIH Director. The right person does not need a great deal of administrative experience; what is more important is a willingness to learn how to run a complex organization in a federal environment, which is quite different from running an academic department. Ultimately, this person will represent the nursing research profession before Congress and stakeholder groups.

ADJOURNMENT—Dr. Ann Cashion, Acting Director, NINR

Dr. Cashion thanked meeting attendees and adjourned the open session of the meeting at 4:31 p.m.

CLOSED SESSION

This portion of the meeting was closed to the public in accordance with the determination that this session concerned matters exempt from mandatory disclosure under Sections 552b(c)(4) and 552b(c)(6), Title 5, U.S. Code, and Section 10(d) of the Federal Advisory Committee Act, as amended (5, USC Appendix 2). Members absented themselves from the meeting during discussion of and voting on applications from their own institutions or other applications in which there was a potential conflict of interest, real or apparent. Members were asked to sign a statement to this effect.

REVIEW OF APPLICATIONS

NACNR members considered 112 research and training grant applications on which NINR was the primary Institute; these applications requested a total of \$33,130,985 (direct costs year 01). The Council also considered 361 applications on which another Institute/Center was primary and NINR was secondary. These applications requested a total of \$186,887,662 (direct costs year 01). The Council concurred with the Institutional Review Group recommendations on these 473 applications.

ADJOURNMENT

The 99th meeting of the NACNR was adjourned at 12:00 p.m. on Wednesday, September 18, 2019.

CERTIFICATION

I hereby certify that the foregoing minutes are accurate and complete.

Ann Cashion, Ph.D., R.N., F.A.A.N.
Acting Chair
National Advisory Council for Nursing Research

Nara Gavini, Ph.D., M.Phil.
Acting Executive Secretary
National Advisory Council for Nursing Research

COUNCIL MEMBERS PRESENT

Dr. Ann Cashion, Acting Chair
Dr. Nara Gavini, Acting Executive Secretary
Dr. Kathryn H. Bowles
Dr. Yvette Conley
Dr. Audwin Fletcher
Dr. Deborah Koniak-Griffin
Dr. Peter A. Lewin
Dr. John Lowe
Dr. Ida M. Moore
Dr. Shirley M. Moore
Dr. Nilda Peragallo-Montano
Dr. Rita H. Pickler
Dr. Sheila Sullivan, *Ex Officio*
Dr. JoEllen Wilbur
Dr. Joanne Wolfe

MEMBERS OF THE PUBLIC PRESENT

Ms. Valerie Adelson, Oncology Nursing Society
Dr. Lisa Blair, University of Kentucky
Ms. Deana Dixon, Johns Hopkins School of Nursing
Mr. Nick Giurnams, Utah State University
Ms. Emily Jenkins, John P. Mayhugh Foundation

Dr. Ilkeen Jesucunar, Batner University, Turkey
Dr. Nada Lukkahatai, Johns Hopkins School of Nursing
Dr. Mayo P. Minission, Cedars-Sinai
Dr. Jungmin Park, Johns Hopkins School of Nursing
Ms. Kathy Sedgwick, NOVA Research Company
Pratum Soivang, Johns Hopkins School of Nursing
Dr. Max Topaz, Columbia University
Dr. Kristen Weaver, University of Maryland
Xueling Xiao, Johns Hopkins School of Nursing
Zeyu Zhang, Johns Hopkins School of Nursing

FEDERAL EMPLOYEES PRESENT

Mr. Jedidiah Acott PD/NIH
Dr. Lynn Adams, NINR/NIH
Mr. Brian Albertini, NINR/NIH
Dr. Carolyn Allen, NINR/NIH
Ms. Monica Atkinson, NINR/NIH
Dr. David Banks, NINR/NIH
Ms. Melissa Barrett, NINR/NIH
Ms. Catherine Blumhorst, NINR/NIH
Ms. Brianna Brooks, NINR/NIH
Mr. Nathan Brown, NINR/NIH
Dr. Yvonne Bryan, NINR/NIH
Ms. Kierra Butler, NINR/NIH
Dr. Edmond Byrnes, NINR/NIH
Ms. Stephanie Chidester, NINR/NIH
Ms. Irene Chrismer, NINR/NIH
Dr. Claudia Conina, NINR/NIH
Dr. Augie Diana, NINR/NIH
Dr. Katie Edwards, NINR/NIH
Dr. Matthew Eliseo, NINR/NIH
Dr. Magalie Emile-Backer, NCI/NIH
Dr. Jessica Gill, NINR/NIH
Dr. Rebekah Feng, NINR/NIH
Ms. Ana Ferreira, NINR/NIH
Dr. Michael Gottesman, OD/NIH
Dr. Taichi Goto, NINR/NIH
Dr. John Grason, NINR/NIH
Dr. Letitia Graves, NINR/NIH
Dr. Vivian Guedes, NINR/NIH
Dr. Michelle Hamlet, NINR/NIH
Dr. Rebecca Hawes, NINR/NIH
Ms. Karez Hawkins, NINR/NIH
Dr. Rebecca Henry, NINR/NIH

Dr. Jim Holdnack, NINR/NIH
Dr. Karen Huss, NINR/NIH
Mr. Doug Hussey, NINR/NIH
Dr. Eun-Ok Im, NINR/NIH
Dr. Rosario Jaime-Lara, NINR/NIH
Dr. Paule Joseph, NINR/NIH
Dr. Karen Kehl, NINR/NIH
Ms. Mary Kelly, NINR/NIH
Ms. Jo-Ann Kriebel, NINR/NIH
Ms. Saloni Kumar, NINR/NIH
Dr. Emma Kurnat-Thoma, NINR/NIH
Dr. Chen Lai, NINR/NIH
Ms. Connie Latzko, NINR/NIH
Dr. Tokunbor Lawal, NINR/NIH
Dr. Weiqun Li, NINR/NIH
Ms. Josephine Liwang, NINR/NIH
Dr. Martha Matocha, NINR/NIH
Dr. Jessica McIlvane, NINR/NIH
Dr. Arthur Meltzer, NINR/NIH
Dr. Jeri Miller, NINR/NIH
Ms. Sara Mithani, NINR/NIH
Ms. Meghan Murray, NINR/NIH
Dr. Cheryl Nordstrom, CSR/NIH
Ms. Isla Norwood, NINR/NIH
Mr. Rodrigo Ortiz Figueroa, NINR/NIH
Dr. John Ostuni, NINDS/NIH
Dr. Glorivee Pagan-Mercado, NINR/NIH
Ms. Karen M. Parker, NIAID/NIH
Dr. Rebekah Rasooly, NINR/NIH
Ms. Vanessa Rogers, NINR/NIH
Mr. Alex Ross, NINR/NIH
Ms. Heather Rusch, NINR/NIH
Ms. Nada Saleh, NINR/NIH
Dr. Leorey Saligan, NINR/NIH
Dr. Tara Schwetz, NINR/OD/NIH
Ms. Marisa Sheelor, NINR/NIH
Mr. Michael Steele, CIT/NIH
Dr. Lawrence Tabak, NINR/OD/NIH
Dr. Pamela Tamez, NINR/NIH
Dr. Lois Tully, NINR/NIH
Dr. Carlotta Vizioli, NINR/NIH
Ms. Chelsea Wagner, NINR/NIH
Mr. Kevin G. Wilson, NINR/NIH
Dr. Markos Woldeyohannes, NINR/NIH

Dr. Brian Wolff, NINR/NIH
Dr. Sue Wingate, NINR/NIH
Dr. Lichen Xiang, NINR/NIH
Mr. Ajay Yadava, NINR/NIH
Dr. Sung Sug (Sarah) Yoon, NINR/NIH