American Thoracic Society

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In This Issue

Letter from the Editor

Our feature article this month is an interview with Rachel Ramoni, DMD, ScD, chief research and development officer for the Veterans Affairs Medical and Prosthetic Research Program. Dr. Ramoni shares her vision of the research program over the next five years, discusses the VA career development program and opportunities for pulmonary, critical care, and sleep in the Million Veteran Program.

Our second feature is an overview of the National, Heart, Lung, and Blood Institute's new Asthma Empowerment Initiative grantees, written by Research Advocacy Committee Vice-Chair Lynn Gerald, Ph.D., MSPH and Michelle Freemer, MD

Moving to patient-centered outcomes research, we have an announcement for the Patient-Centered Outcomes Research Institute's (PCORI) upcoming annual meeting, Oct.31 through Nov. 2. Next is an an update and opportunity for engagement on the next Trans-NIH Strategic Plan for Women's Health Research.

Opportunities for researchers in IDeA states are the focus of our next article, followed by a report on ATS Oklahoma members' advocacy with their U.S. senator, a key member of Senate panel that appropriates annual funding for the National Institutes of Health and all other health programs. This edition of the Quarterly concludes with an update from the ATS Washington Office on 2018 health research and services funding.

Sincerely,

Veena Antony, MD
Editor

INTERVIEW WITH Rachel Ramoni, DMD., ScD

Chief Research and Development Officer, VA Medical and Prosthetic Research Program

Q: You have an impressive science and research background, but do not have much experience in the VA system. In your brief time at the VA, what have you observed as the strengths and weaknesses of the VA research program?

A: I'm making a point of visiting the places where our research is conducted, and every place I visit, I am reminded why I was drawn to VA Research. Our research takes place within VA medical centers (VAMCs), and many of our investigators are also active clinicians. This gives us both the opportunity and responsibility to conduct research that can translate into caring for our veterans. One of the things I most look forward to on these visits is meeting veterans. It re-energizes me. The primary reason I came to the VA research program is its mission to foster innovations that benefit the health and well-being of those who have served our country.

Every system has its challenges. As a person with an informatics background, I was surprised that we do not have control over our IT budget, and we cannot allocate our research funding to support IT. While this has given me the opportunity to think creatively about how to advance data science in this setting, I do hope that this changes.

Q: What is your broad vision that you hope to implement at the VA research program?

A: At a high level, I am taking steps to reduce research redundancy that is wasteful, decrease the time to real-world impact, and value reproducibility and real-world impact as strongly as publications and presentations.

This vision has a number of practical implications.For example, the Office of Research and Development is creating concrete, multi-year roadmaps that elucidate the research and other activities needed to get from our current state to particular outcomes, coordinating with other agencies, non-profits, and private entities. In many cases, technology transfer is critical to this process, as the "last mile" for research is often the first mile of product development. If that last mile/first mile handoff does not occur, a promising product of years or decades of research won't translate into something that helps people. We are also working to streamline the

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regulatory precursors to research, such as making it easier to rely upon other institutional review boards (IRBs). Finally, we are conducting pilot efforts to track research reproduction and real-world impact so that we can create the proper incentives to target these as success metrics.

Q: Both the House and the Senate have provided increased funding for the VA research program for FY18. How do you intend to use these additional funds to support VA research?

A: Both the House and the Senate continue to be strong supporters of VA research. The current "mark-ups" for the FY18 appropriation in both the House and Senate do show an increase for FY18. Should these increases materialize, we will increase funding in several VA secretary and veteran priority areas. We will seek to continue the tremendous efforts in the Million Veteran Program by investing additional dollars in whole genome sequencing. We will also establish a secondary biorepository to safeguard the valuable samples already collected from over 600,000 veterans. Suicide prevention is Secretary Shulkin's top priority, and accordingly, we will increase our funding of mental health, suicide, and opioid addiction research. There is a real need to address the prosthetic needs of women veterans, as there are different biomechanical and functional considerations. The balance of any increase will go to research services (basic, health services, clinical, and rehabilitation) to enhance their ability to fund merit awards.

Q: Congressionally mandated reports have noted the problems with VA laboratory physical infrastructure. How do you plan to address the substantial physical research infrastructure problems at many VA research sites?

A: The Congressionally mandated reports were based on a significant effort by the Office of Research and Development not only to assess the physical conditions of VA research infrastructure, but also to provide the local VAMCs with accurate cost data to correct deficiencies. It is encouraging that, since the beginning of the assessment program, over $400 million has been obligated by VA to upgrade research space and create new space. In addition to a number of stations where laboratories have undergone extensive renovations, several new research buildings (Charleston, SC; Durham, NC; New Orleans, LA; Denver, CO; Pittsburgh, PA; Tucson, AZ; Washington, DC) have been completed. New research buildings are going up or are in the design phase in Seattle, WA; Palo Alto, CA; and San Francisco, CA.

Despite this, significant deficiencies remain. VA research is an intramural program and many of our research laboratories are embedded in medical facilities that are, on average, over 50 years old. Requests for facility improvements, under the Minor Construction or the Non-Recurring Maintenance program, are initiated at the Veterans Integrated Service Networks (VISN) level.

We will continue to work with local facility planners and agency partners to advocate for research infrastructure upgrades. We are also exploring non-capital solutions, such as revocable licenses and leases to allow some VA investigators to work off-site. We are developing memoranda of understanding with our academic affiliates so that certain VA research projects, such as those requiring biocontainment facilities, can be conducted at the affiliate.

Q: The Million Veteran Program is an exciting research tool that will help VA investigators move forward with research into the genetic origins of disease and may help unlock the potential of truly personalized medicine. The MVP also poses a unique budget challenge in that MVP funding needs may soon directly compete with funding for merit awards and career development awards. How do you plan to balance the scientific opportunities the MVP provides with the budget reality of how much funding it will require to complete and maintain the MVP?

A: I don't see funding MVP projects, merit awards, and career development awards as a zero-sum equation. MVP is, first and foremost, a research infrastructure project that will be broadly enabling of research in the same way that VA Informatics and Computing Infrastructure (VINCI) (https://www.hsrd.research.va.gov/for_researchers/vinci/) enables a broad range

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of research using electronic health record data. Likewise, the MVP will be the basis of merit and career development awards and will elevate them with the breadth and quality of its data. I also believe that this coordinated infrastructure ultimately is more cost effective than having each investigator attempt to assemble and curate adequate datasets.

To make this promise a reality, we need to ensure that we have the computing infrastructure, support, and practical governance to manage numerous investigators analyzing MVP data in parallel. Putting MVP data in a powerful, secure cloud is essential. Given the relatively modest IT resources allocated to us, one of my primary areas of focus has been to seek partnerships to support the MVP cloud that will make our investment in the MVP a win for a broad range of investigators.

Q: To date, projects using the MVP database have not yet had much relevance to pulmonary, critical care, or sleep research. What plans do you have to expand MVP opportunities to pulmonary, critical care, and sleep investigators?

A: Lung disorders, particularly cigarette smoking-related diseases, such as COPD, as well as sleep disorders, such as obstructive sleep apnea, are very common, major causes of morbidity and mortality in our veterans. The first wave of MVP projects consisted of pilot research projects that allowed us to test and refine data access and analysis pipelines for conducting big data analysis within the VA's constrained computational system using genotype and clinical phenotype data from ~400,000 of our initial MVP enrollees. These pilot projects focused on a subset of conditions, such as post-traumatic stress disorder, substance addiction/abuse, and cardiometabolic diseases. It is now time to harness the power and scope of the MVP, which currently has over 600,000 enrolled participants, to expand our research portfolio to study many other disease areas that impact veterans.

Critical care medicine is an additional important area of opportunity for the MVP. MVP participants are enrolled as ambulatory outpatients. However, with the growing size of the overall participant database, it is now possible to design substudies with participants who have received inpatient care, surgery, and/or critical care in the VA. These substudies can focus on discovering the genetic factors and other risk factors that predict health or disease outcomes in these veterans.

Over the next one to two years, our MVP scientific strategic plan calls for expanding the number of research projects and the pool of investigators, including non-VA investigators. Our ability to foster meaningful research programs in pulmonary, critical care, and sleep medicine will depend upon our ability to build funding partnerships. Therefore, we will seek to expand avenues for MVP research funding, including mutually beneficial collaborations with other federal agencies and non-profits.

Q: The ATS strongly supports the VA career development grants and notes that several thought leaders in pulmonary, critical care, and sleep medicine began their careers with VA career development awards. Please share with us your vision for the VA career development awards.

A: We are grateful that the ATS has been such a steadfast supporter of VA research and are thrilled to have contributed to the advancement of pulmonary, critical care, and sleep medicine.

Our commitment to career development is reflected by the fact that these awards are among our most substantial awards. This allows us to ensure that early career investigators have the protected time they need to succeed, which is especially important for our clinician-investigators. Our awardees are a select group who emerged from an intensely competitive process. In fact, the program is becoming one of the most competitive awards in the nation. Despite its competitiveness, the number of applicants applying for career development awards is steadily increasing.

In my view, the success of the career development award program is not measured in the number of awards we fund but in the number of awardees who

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establish productive, fulfilling research careers and who generate reproducible, impactful results. Our current awardees are working on research projects across the full spectrum of lung diseases, from preclinical studies to clinical trials (e.g., asthma, chronic bronchitis and emphysema (COPD), lung cancer, acute lung injury and fibrosis, sleep and sleep- disordered breathing, microbiota and COPD, and opportunistic infections and COPD). To help the awardees succeed, a distinguished group of strong, committed, and supportive VA and non-VA researchers, many of whom started their VA careers through the career development program, serve as mentors through this integrated program of training and scientific investigation.

Each year, the Office of Research and Development holds several meetings/workshops designed by our staff in all four research services to help career development awardees achieve their goals and further their development as they transition to independent careers. Through these meetings, awardees develop a sense of belonging to a national community of VA researchers who are working together to tackle important questions at the forefront of improving veteran's health care. Additionally, awardees use these events and the resulting enduring connections to exchange research ideas, develop collaborations, and learn of other VA resources that could enhance their research efforts. ■

ASTHMA RESEARCH

Asthma Enpowerment Program Addresses Childhood Asthma Disparities

Lynn B. Gerald, PhD, MSPH and Michelle Freemer, MD, MPH

The National Heart, Lung, and Blood Institute created the Asthma Empowerment Program for investigators to develop and assess community-based Asthma Care Implementation Programs (ACIPs) that address disparities in asthma outcomes among children. In the program's first phase, investigators conducted community needs assessments to determine how to select and integrate evidence-based interventions that focus not only on medical care, but extend to the home, the family, and the community where children live. More recently, the NHLBI funded four cooperative agreements to conduct clinical trials to evaluate the ACIPs, assess their sustainability, and determine best practices for the care of children at high risk of poor outcomes.

The grant recipients have engaged a wide range of communities in their programs, partnering with the families of children with asthma as well as care providers and community organizations that focus on children's care. The group of investigators is expected to have an impact within the following communities.

The Navajo Nation (U01HL138677)

Bruce Bender and Lynn Gerald will work with the president and vice president of the Navajo Nation, governmental organizations, health care centers, schools, and communities in three participating agencies (Fort Defiance, Chinle, and Tuba City) in Arizona. Asthma prevalence among children on the Navajo Nation is two to three times that of the general population, with barriers to care that include poverty, environmental pollutants, and large travel distances to resources. In addition, the use of evidence-based asthma care through the Indian Health Service (IHS), the only health care system on the reservation, is inconsistent.

Drs. Bender and Gerald and their Navajo partners will combine two previously tested programs, one focused on training providers and one on school-based education and monitoring, to build a comprehensive, integrated, team-based ACIP to meet the identified

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Asthma Research *(Continued from page 5)*

needs of the communities. Using a stepped-wedge design, the intervention will be introduced sequentially into the three agencies. A mixed-methods analysis will be employed to assess asthma exacerbations through the IHS database, interviews with 300 families with a child with asthma, and key informant interviews with care providers, including health care providers, school teachers, and nurses. Following the analysis, meetings will be held with multiple organizations including local chapter houses to share outcome data, gather feedback, and plan for dissemination to other agencies and reservations.

West Philadelphia Asthma Care Collaborative (WEPACC) (U01HL138682)

For two decades, the Community Asthma Prevention Program (CAPP) has used community health workers (CHWs) to improve asthma outcomes of children in Philadelphia. Tyra Bryant-Stephens established a network of stakeholders with representation from public housing, health care, community, and schools, to build on the foundation of CAPP and address the needs of West Philadelphia in WEPACC. The ACIP will use CHWs to deliver sustainable patient-centered evidence-based interventions to school-aged children (ages 6-12 years) with asthma.

The interventions include (1) a primary care-based Yes We Can intervention with home visits and (2) a comprehensive school-based intervention, Open Airways for schools and School Based Asthma Therapy. CHWs will provide a network of education, care coordination support, and facilitate communication for families of children with asthma.

Approximately 600 asthmatic children from three inner-city primary care clinics will be randomly assigned to one of four study conditions: primary care CHW, school CHW, both interventions, or a control group and followed for one year. Dr. Bryant-Stephens and her team will compare the effectiveness of the interventions to improve asthma control and reduce symptom days, explore moderators and mechanisms of effectiveness and sustainability of the interventions, and explore implementation determinants and outcomes of school intervention that promote effectiveness, fidelity, and sustainability. They also plan to examine the cost effectiveness associated with the intervention and implementation strategies to promote sustainability.

RVA Breathes: A Richmond City Collaboration to Reduce Pediatric Asthma Disparities (U01HL138689)

Richmond is often called the “Asthma Capital” of the U.S. by the Allergy and Asthma Foundation of America and is consistently identified as one of the most challenging places to live with asthma. Observing the lack of a comprehensive, community-engaged asthma care program for those children at highest risk for poor asthma outcomes, Robin Everhart and her team conducted a year-long, mixed-methods community-needs assessment. The resulting program, RVA Breathes, includes family-based asthma self-management education (delivered by CHWs who are parents of children with asthma), home environmental remediation, and a school-based component of care. These interventions capitalize on existing resources and relationships among stakeholders in Richmond.

Dr. Everhart’s proposed trial of RVA Breathes will assign approximately 300 children and their caregivers to one of three conditions: 1) asthma education + home remediation + school intervention, 2) asthma education + home remediation, and 3) comparator condition. Primary outcomes will include health care utilization, school absences, and medication usage; secondary outcomes include asthma control, symptoms, and quality of life. The findings from this trial are expected to allow for dissemination and implementation of RVA Breathes as a sustainable program in the Richmond area.

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Asthma Research *(Continued from page 6)*

Rhode Island Asthma Integrated Response Program (RI-AIR) (U01HL138687)

Greater Providence comprises several "core" cities of high poverty and significant pediatric asthma disparities. Working with the community, Elizabeth McQuaid and Daphne Koinis-Mitchell developed RI-Asthma Integrated Response (RI-AIR) Asthma Care Implementation Program (ACIP) as a system of identification, screening, and intervention for pediatric asthma. The core components of the ACIP include 1) a technology platform (RI-AIR IDS) to integrate data from LifeChart (EHR), REDCap (research data system), and KIDSNet (state database of child health information), 2) an algorithm to stratify asthma management services based on level of asthma control/risk, 3) enhanced coordination between caregiver, school nurse, and health care provider to promote integration of care. Two additional components of the ACIP will be provided based on the child's level of asthma control 4) multilevel school-based education (CASE) to family/child/school system, and 5) intensive home-based intervention (HARP).

Drs. McQuaid and Koinis-Mitchell will evaluate the effectiveness of the RI-AIR ACIP using a randomized, stepped-wedge design in 16 communities involving approximately 1500 urban, ethnically diverse children with asthma and their families, using both individual-level (e.g., asthma control) and community-specific outcomes (i.e., rates of ED visits). The implementation outcomes to be evaluated include penetration within communities and school districts, factors that determine family's acceptance of the program, fidelity in assigning interventions based on asthma control and to the components of the interventions, and sustainability.

While each of the four investigative teams will work within their communities, the investigators will also convene to discuss their approaches to implementing evidence based interventions, measuring sustainability, and defining best practices in specific settings. An important aspect of the program will be dissemination of the results to communities caring for children with asthma to help improve outcomes for all children with asthma. ■

PCORI

PCORI Annual Meeting: Oct. 31 – Nov. 2, Arlington, VA

The Patient-Centered Outcomes Research Institute (PCORI) is holding its third Annual Meeting, "Delivering Results, Informing Choices," Oct.31 though Nov. 2 in Arlington, VA. Onsite registration is available. Over 1,000 researchers, patients, clinicians, payers and others will be meeting to learn results from PCORI comparative clinical effectiveness studies and the institute's work to help move research findings into clinical practice. Keynote speakers include actor Alan Alda. For registration and agenda information, visit the 2017 PCORI Annual Meeting website. ■

WOMEN'S HEALTH RESEARCH

NIH to Update Women's Health Research Strategic Plan; Seeking Public Comment

The NIH Office of Research on Women's Health (ORWH) is updating the Trans-NIH Strategic Plan for Women's Health Research. The Plan, published in 2010, identifies cross-cutting themes that create a conceptual framework for integrating women's health within the biomedical research landscape. Created in 1990, the mission of the ORWH is to:

- Identify projects and multidisciplinary research related to women's health,

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Women's Health Research *(Continued from page 7)*

- Encourage research on sex differences and foster coordination among research entities,
- Assist NIH efforts to include women as subjects in clinical research, and
- Develop opportunities and support for women in biomedical careers.

In September, the ORWH published a notice to solicit feedback from basic, clinical, and translational scientists and advocacy and patient groups on ideas and topics for the next strategic plan. The notice outlines the three new cross-cutting themes and accompanying goals that are under consideration for the framework of the next plan and three corresponding questions for which the ORWH is seeking public input. The themes are intended to generate new research areas, priorities, and approaches to help put science to work for the health of women. The three cross-cutting themes for the plan are:

1) Expand the Exploration of Sex as a Biological Variable (SABV) in NIH Research
2) A Multi-Dimensional Approach to the Science of Women's Health
3) Quality of Life and Disease Burden over the Life-Course.

The deadline for comments on the Trans-NIH Strategic Plan for Women's Health Research is Nov. 10, 2017. The ATS will be submitting comments on the plan, which will be reported in an upcoming edition of the Quarterly.

NIGMS

New Opportunity for IDeA-State Researchers

The National Institute of General Medical Sciences (NIGM) will be unveiling a new Funding Opportunity Announcement (FOA) to support innovative scientific partnerships between academic investigators and small business concerns (SBCs) in Institutional Development Award (IDeA) states to foster a sustainable culture of biomedical entrepreneurship. The FOA aims to create one shared regional tech transfer accelerator hub in each of the four IDeA regions (Central, Northeastern, Southeastern and Western). These accelerator hubs will act as regional consortia to provide infrastructure and build an entrepreneurial culture at the IDeA institutions in that region. Products of the funded research will be educational tools such as curricula, texts, and webinars that can be licensed or sold to other institutions for the creation of accelerators hubs.

The IDeA Program helps broaden the geographical distribution of biomedical research funding and often serves rural and medically underserved populations. The 23 IDeA states and Puerto Rico have historically had disproportionately few Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) awards. The states/commonwealth that are in the four IDeA regions, include Central (Kansas, Nebraska, North Dakota, Oklahoma, and South Dakota); Northeastern (Delaware, Maine, New Hampshire, Rhode Island, and Vermont); Southeastern (Arkansas, Kentucky, Louisiana, Mississippi, Puerto Rico, South Carolina, and West Virginia) and Western (Alaska, Idaho, Hawaii, Montana, New Mexico, Nevada, and Wyoming).

Although non-federal matching funds are not required, academic institutional leadership must demonstrate evidence of strong and specific institutional commitment from each of the partner institutions, outlining the resources and facilities that will be committed by the institution to support and sustain the regional hub throughout the period of funding and beyond. SBC partners are expected to have substantial experience in all aspects of technology transfer. Each hub will provide consulting services to the faculty and staff of colleges and universities in IDeA states in the region, helping them establish small businesses based on their research or move their intellectual property into existing small businesses.

The FOA, which will use the UT2 activity code for Small Business Technology Transfer (STTR), is expected to be published in Nov. 2017 with applications due in early 2018. Click here to view the NIGMS Notice.

ATS MEMBER ADVOCACY

ATS Oklahoma Members Advocate for Research with U.S. Senator

ATS members from the University of Oklahoma Health Sciences Center (OUHSC) recently met with staff of Oklahoma Senator James Lankford (R-OK) at the OUHSC campus in Oklahoma City. Brent Brown, MD, chief of pulmonary, critical care, and sleep medicine; Houssein Youness, MD, president of the Oklahoma Thoracic Society and director of the pulmonary and critical care fellowship at OUHSC; Jordan Metcalf, MD, research director of pulmonary and critical care; and Cory Cross, MD, assistant professor of medicine met with Brookes Wright, Sen. Lankford's field representative, to discuss respiratory research innovation at OUHSC and public health issues, such as COPD.

Sen. Lankford is a key member of the Senate's Labor, Health and Human Services Appropriations Subcommittee that appropriates annual funding for NIH and all other health programs. The ATS Oklahoma members urged Sen. Lankford to support increased funding for NIH, including for implementation of the COPD National Action Plan. ■

From left to right: Jordan Metcalf, MD, Brent Brown, MD, Brookes Wright, Field Rep. for Sen. Lankford (R-OK), Houssein Youness, MD & Cory Cross, MD.

RESEARCH FUNDING

Senate Panel Approves NIH Funding Increase

On September 6, 2017, the Senate Labor, Health and Human Services Appropriations Subcommittee, followed by the full Appropriations Committee, approved a proposed $2 billion increase for the NIH for fiscal year 2018 – a win for the ATS! The bill provides total proposed NIH funding of $36.1 billion in 2018 as part of the FY2018 health spending bill. The Senate panel's allocation is a rejection of the Trump administration's proposed 21 percent cut to NIH and is higher than the House's proposal of $1.1 billion for the agency.

The Senate Appropriations Committee also rejected the Trump Administration's proposal to cap NIH grant indirect costs at 10 percent. The House bill also rejects the indirects cap proposal.

The Senate bill proposes the following funding levels for the NIH institutes that the ATS monitors most closely:

- $3,322 billion for the National Heart, Lung, and Blood Institute, about a 6.6 percent funding increase over the FY2017 level of $3,122 billion.
- $5,127 billion for the National Institute of Allergy and Infectious Diseases, about a 9 percent increase over the FY2017 level of $4,639 billion.
- $2,887 billion for the National Institute of General Medical Sciences, about an 8 percent increase over the FY2017 level of $2,887 billion. (NIGMS receives some funding for the Precision Medicine Initiative, which would receive a $60 million increase.)
- $737,7 million for the National Institute of Environmental Health Sciences, about a 6.4 percent funding increase over the FY2017 level of 693,7 million.
- $1,426 billion for the National Institute of Child Health and Development, about a 3.5 percent increase over the FY2017 level of $1,380 billion.

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- $155 million for the National institute of Nursing Research, about a 3.5 percent increase over the FY2017 level of $150,2 million.

Concerning the Centers for Disease Control and Prevention (CDC), the Senate committee rejected the Administration's proposal to cut $1.2 billion from the CDC's FY2018 budget and instead provided roughly flat funding for the agency at the FY2017 level of $7.18 billion. We can also report that the Senate committee proposed that the CDC's asthma and domestic tuberculosis programs and the National Institute of Occupational Safety and Health be funded in the coming year at FY2017 levels.

With fiscal year 2017 ending on Sept. 30, Congress and the president agreed on a temporary spending measure to fund the government until Dec. 8, 2017. Congress now has until this date to finalize FY2018 spending. The NIH is in a good position to receive an FY2018 funding increase of between $1.2 – $2 billion following the House and Senate committees' bipartisan support for an increase for the agency. ■