Study Estimates Growing U.S. AD Burden

In a press release issued on December 7, the National Institutes of Health (NIH) highlighted the results of a National Institute on Aging–funded study suggesting that ~6 million American adults currently have Alzheimer disease (AD) or mild cognitive impairment. The study also forecast that these numbers will more than double to 15 million by 2060. Brookmeyer and colleagues from the University of California–Los Angeles and –Irvine published "Forecasting the prevalence of preclinical and clinical Alzheimer's disease in the United States" on November 29 ahead of print in *Alzheimer's & Dementia.* Using a multistate model incorporating biomarkers for preclinical AD with U.S. population projections, they calculated that 46.7 million Americans now have preclinical AD (amyloidosis, neurodegeneration, or both), although many of these individuals may not progress to clinical disease.

This forecast differs from earlier estimates by accounting for individuals with biomarkers or other evidence of possible preclinical AD who do not have impairment or diagnosed dementia. The model used can also evolve to integrate the impact of new prevention efforts into estimates of future cases.

National Institutes of Health

NRC's Moore Receives Presidential Rank Award

Scott W. Moore, deputy director of the Office of Nuclear Material Safety and Safeguards at the U.S. Nuclear Regulatory Commission (NRC), was selected as a 2017 Presidential Rank Award recipient in the Meritorious Distinguished Award category. The award was announced in a December 13 NRC press release. The award is one of the highest given to government employees and recognizes sustained extraordinary accomplishments by career public servants. Moore joined the NRC in 1988 as a health physicist and has spent almost 30 years in a series of increasingly responsible positions. Among other assignments, he worked as a technical expert on radiological materials for former NRC Chair Shirley Jackson, PhD. He also worked in a variety of positions supporting the safe and secure domestic uses of radioactive material and at an international level as deputy director of the Office of International Programs. He became a member of the Senior Executive Service in 2004. In his current position, he leads almost 300 technical and corporate staff in activities related to the licensing and regulatory oversight of industrial, academic, and medical uses of radioactive sources; nuclear fuel fabrication and processing; spent fuel storage; low-level waste storage and disposal facilities; and decommissioning reactor and materials sites.

U.S. Nuclear Regulatory Commission

CMS Announces Voluntary Bundled Payment Model

The Centers for Medicare & Medicaid Services (CMS) Center for Medicare and Medicaid Innovation (Innovation Center) announced on January 9 the launch of a new voluntary bundled payment model called Bundled Payments for Care Improvement Advanced (BPCI Advanced). Under traditional fee-for-service payment, Medicare pays providers for each individual service performed. Under this bundled payment model, participants can earn additional payment if all expenditures for a beneficiary's episode of care are under a spending target that factors in quality. According to the CMS press release: "Bundled payments create incentives for providers and practitioners to work together to coordinate care and engage in continuous improvement to keep spending under a target amount."

BPCI Advanced Participants may receive payments for performance on 32 different clinical episodes. BPCI Advanced will qualify as an Advanced Alternative Payment Model (Advanced APM) under the Quality Payment Program (QPP). In 2015, Congress passed the Medicare Access and Chip Reauthorization Act or MACRA. MACRA requires CMS to implement the QPP, which changes the way physicians are paid in Medicare. QPP created 2 tracks for physician payment: the Merit-Based Incentive Payment System (MIPS) track and the Advanced APM track. Under MIPS, providers have to report a range of performance metrics and then have their payment amount adjusted based on their performance. Under Advanced APMs, providers take on financial risk to earn the Advanced APM incentive payment.

"CMS is proud to announce this Administration's first Advanced APM," said CMS Administrator Seema Verma. "BPCI Advanced builds on the earlier success of bundled payment models and is an important step in the move away from fee-for-service and towards paying for value. Under this model, providers will have an incentive to deliver efficient, high-quality care."

In BPCI Advanced, participants will be expected to redesign care delivery to keep Medicare expenditures within a defined budget while maintaining or improving performance on specific quality measures. Participants bear financial risk, have payments under the model tied to quality performance, and are required to use Certified Electronic Health Record Technology. By meeting these requirements, the model qualifies as an Advanced APM. The 32 types of clinical episodes in BPCI Advanced add outpatient episodes to the inpatient episodes that were offered in the Innovation Center's previous bundled payment model.

CMS designed this model taking into account evaluation results from previous models, industry experience with bundled payment, and stakeholder input from health care providers at acute care hospitals, physician group

practices, and other providers and suppliers. The Model Performance Period for BPCI Advanced starts on October 1, 2018, and runs through December 31, 2023. As with all models tested by CMS, a formal, independent evaluation to assess quality of care and changes in spending under the model will be performed. For more information about the model and its requirements or to download a Request for Applications document, the application template, and the required attachments, see: https://innovation.cms.gov/initiatives/bpci-advanced. Applications must be submitted via the Application Portal, which will close at 11:59 PM EST on March 12, 2018.

Centers for Medicare & Medicaid Services

NNSA Highlights Complete Curium ^{99}Mo Conversion

The U.S. Department of Energy (DOE) National Nuclear Security Administration (NNSA) announced on January 17 that Curium (St. Louis, MO), an international health care company, had completed conversion of its ^{99}Mo production process from highly enriched uranium (HEU) to low-enriched uranium (LEU). According to the NNSA press release "this conversion to LEU represents a key milestone in the global effort to end the use of HEU in ^{99}Mo production." "Curium's successful conversion marks another major step towards a more secure world where the ^{99}Mo supply is stable and proliferation-sensitive material is not at risk," said David Huizenga, NNSA Principal Assistant Deputy Administrator for Defense Nuclear Nonproliferation. "By increasing the share of worldwide ^{99}Mo production that uses LEU, we are closer to eliminating the use of weapons-grade uranium in making this critical resource and making the world safer."

NNSA and Curium have collaborated on the conversion process since 2014 as part of NNSA's nonproliferation mission, which helps support major global ^{99}Mo producers in the conversion process. NNSA's support assisted Curium in developing new LEU-based targets and in designing, building, and testing new production equipment and processes for separating LEU-based ^{99}Mo after irradiation. In a parallel press release, Curium officials noted that the completion of this process makes Curium the only North American ^{99m}Tc generator manufacturer able to supply its customers exclusively with 100% LEU-based generators. Curium is the world's largest supplier of ^{99m}Tc generators and the largest user of ^{99}Mo. "This milestone helps satisfy the goals set forth by the DOE NNSA and confirms our support for the NNSA project to eliminate the use of weapons-grade uranium in the production of medical isotopes," said Dan Brague, Curium North American CEO. "We are eager to see others follow our lead and comply with the government's call for full conversion as soon possible."

The achievement also means that more than half of the world's production of ^{99}Mo is now LEU based. In addition to supporting conversion among international ^{99}Mo producers, NNSA works domestically to support commercial partners in establishing a reliable, non-HEU-based supply of this critical medical radioisotope.

National Nuclear Security Administration

FROM THE LITERATURE

Each month the editor of Newsline selects articles on diagnostic, therapeutic, research, and practice issues from a range of international publications. Most selections come from outside the standard canon of nuclear medicine and radiology journals. These briefs are offered as a monthly window on the broad arena of medical and scientific endeavor in which nuclear medicine now plays an essential role. The lines between diagnosis and therapy are sometimes blurred, as radiolabels are increasingly used as adjuncts to therapy and/or as active agents in therapeutic regimens, and these shifting lines are reflected in the briefs presented here. We have also added a small section on noteworthy reviews of the literature.

^{18}F-DOPA PET vs. MR Contrast Imaging in Recurrent Glioma

Youland et al. from the Mayo Clinic (Rochester, MN) reported on January 13 ahead of print in the *Journal of Neuro-Oncology* on a prospective clinical trial comparing the imaging sensitivity and specificity of ^{18}F-DOPA PET and of MR with contrast enhancement in patients with recurrent gliomas. The study included 13 patients with MR imaging suggesting recurrent glioma who underwent ^{18}F-DOPA PET and contrast-enhanced MR imaging for neurosurgical planning. Areas of concordant and discordant PET and MR findings, all from regions of T2 fluid-attenuated inversion recovery signal hyperintensity, underwent stereotactic biopsy (total of 37 specimens). Sensitivity and specificity of imaging results were calculated based on histopathologic analyses. More than 51% of the biopsied specimens showed MR contrast enhancement, and 78% were ^{18}F-DOPA avid on PET. Imaging results were MR-negative/PET-negative in 16% of biopsies, MR-negative/PET-positive in 32%, positive on both modalities in 46%, and MR-positive/PET-negative in 5%. Histopathologic review showed grade II components in 16%, grade III in 43%, grade IV in 30%, and no tumor in 11%. Contrast-enhanced MR imaging sensitivity for recurrent tumor was 52% and specificity was 50%; corresponding values for PET were 82% and 50%. For MR imaging,