focal collimation to image the heart, along with detector orbits centered about the heart. This enables acquisition of gated SPECT perfusion images in as little as 4 min, according to the company.

Commercial vendors also sought to utilize advanced software applications to enhance the quality of myocardial perfusion images (Flash 3D, Siemens; Astonish, Philips; Evolution for Cardiac, GE Healthcare; Wide-Beam Reconstruction, UltraSPECT). In general, the software packages utilize 3-dimensional collimator blur modeling in conjunction with iterative reconstruction to improve signal-to-noise ratios in the reconstructed images. The vendors propose that these changes may permit shorter ("half-time") acquisition times and/or use of a lower perfusion tracer dose.

New Pharmacologic Stress Agents

In April, the FDA approved regadenoson (Lexiscan; Astellas Pharma US, Inc.; North Deerfield, IL) for pharmacologic stress myocardial perfusion. Regadenoson induces myocardial hyperemia by selectively binding to A_{2A} receptors. Selective A_{2A} receptor binding reduces the severity of untoward side effects. Regadenoson is given as an intravenous bolus over 10 s and is followed by perfusion tracer administration at 30 s. The drug has a high first-pass extraction fraction by coronary arterial receptors, and, therefore, a single dose (0.4 mg) can be used to stress all patients regardless of body weight. This offers advantages for patient throughput in labs that perform high numbers of studies. In clinical studies involving more than 2,000 patients, regadenoson images provided information that was comparable to that provided by images obtained with adenosine stress, with fewer major and less severe side effects. Binodenoson (King Pharmaceuticals, Inc.; Bristol, TN) is another selective A_{2A} receptor agonist that completed Phase III trials but has not been FDA approved.

Clinical Imaging Trials

Phase III clinical trials involving ^{123}I-metaiodobenzylguanidine (^{123}I-MIBG) and ^{123}I-β-methyl-*p*-iodophenylpentadecanoic acid (^{123}I-BMIPP) were completed, and Phase II trials were started using an ^{18}F-labeled myocardial perfusion tracer in 2008. In a multicenter trial, SPECT imaging of myocardial sympathetic innervation with ^{123}I-MIBG was conducted in patients with Class II–III heart failure and reduced left ventricular ejection fraction. Differences in ^{123}I-MIBG uptake and clearance may prove useful for prognosis and for identifying subsets of individuals likely to derive a survival benefit from an implantable defibrillator. Results are pending.

Myocardial ischemia impairs fatty acid oxidation, and local disturbances in tissue metabolism persist for hours beyond the duration of a perfusion deficit. Thus, the "memory" of an ischemic event may result in a defect on ^{123}I-BMIPP images, despite normalization of blood flow, and provide a better discriminator of ischemic versus nonischemic chest pain. A Phase III study of patients presenting to emergency departments with chest pain imaged with ^{123}I-BMIPP was completed, and the results are being analyzed. BMS 747158, an ^{18}F-labeled analog of the mitochondrial complex I inhibitor pyridaben, underwent clinical testing as a PET myocardial perfusion tracer. ^{18}F has a half-life of 109.8 min, and, therefore, the tracer could be distributed from regional radiopharmacies to local PET centers for use in a "low dose/high dose" single-day imaging protocol similar to those used for the ^{99m}Tc-labeled single-photon tracers. Studies can be performed using pharmacologic stress as well as with exercise because of the longer half-life of the tracer.

The advances made in 2008 indicate that nuclear cardiology remains a vibrant and growing field of practice, with even greater clinical promise in the near future.

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From the SNM Molecular Imaging Center of Excellence

As we reach the halfway point of the 5-y Bench to Beside Campaign, I am pleased to report that we have received pledges totaling nearly $4.9 million, with more than $250,000 contributed from individual SNM members. In addition, we have made great progress on a number of deliverables to implement the 5-y strategic plan to bring SNM to the forefront of molecular imaging relative to patient care. This past year has seen many achievements, some of which I highlighted on these pages in December. In this column I would like to bring forward a few more key accomplishments from last year.

The Molecular Imaging (MI) Gateway at the 2008 SNM Annual Meeting was once again successful, with interaction by a large number of meeting attendees. A standing-room-only crowd attended the first MI basic science summary session, which captured content not only from the new MI scientific track but also from scientific sessions throughout the entire meeting pro-

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gram. MI educational opportunities were abundant at the annual meeting, with some of the content captured on an educational CD that is available through the MI Center of Excellence (MICoE). The 2009 SNM Annual Meeting is shaping up to continue to enrich our members with a scientific program encompassing the broad range of MI modalities available today.

Another highlight of the annual meeting was the announcement of the MI grants and awards. With the support of the Educational and Research Foundation of SNM, $300,000 in new MI grants and awards were distributed. These awards included both predoctoral and postdoctoral fellowships as well as pilot grants for junior medical faculty. We look forward to continuing the grants and awards program in 2009.

Educational programs have grown beyond the annual meeting with the establishment of a speaker's bureau that funded lecturers for chapter meetings as well as extramural meetings, including the City College of New York, the Reading Hospital and Medical Center, and the St. Louis Mensa Society. A growing number of MICoE members have signed up to speak at regional meetings upon request. The Education Committee spent considerable time this year developing a new nuclear medicine residency curriculum. This program is currently under review, and a new scientist curriculum is expected in the coming year.

This past year we saw a dramatic improvement in communications with our members as well as others in the MI community. The *MI Gateway* newsletter continues to be published quarterly, with timely articles of interest to the SNM community. Several of these articles have also been published in *The Journal of Nuclear Medicine* (*JNM*) as educational perspectives. In addition to the monthly educational articles, MI scientific articles were regularly published in the journal. *JNM* also produced a special supplement putting the spotlight on MI and oncology.

A sponsorship agreement with the journal *Molecular Imaging* was finalized whereby beginning in 2009, SNM will promote the journal and encourage submission of MI articles from the membership. The second issue of 2009, mailing in April, will include reviews and scientific articles received from SNM MICoE members. A special subscription rate is available for SNM members. I would encourage SNM members to consider publication of their MI articles in the future.

A daily e-mail news service, SmartBriefs, was introduced, bringing late-breaking press stories from a broad spectrum of sources with relevant MI articles. The MI Web site continues to grow with content for both professionals and the lay community. New material is being added on a regular basis, and the MICOE Communications Task Force is looking for opportunities to keep the site fresh.

In February, following the SNM Mid-Winter Meeting, we had another successful industry/expert molecular imaging summit. The summit focused on the challenges and opportunities to bring new MI agents into clinical practice. This meeting complemented previous workshops on translating emerging technologies to the clinic. These discussions, along with outreach to the pharmaceutical community, spawned the SNM Clinical Trials Network, an organization that will support and facilitate the use of imaging biomarkers in therapeutic clinical trials. One of the first accomplishments in support of this network was the granting of the SNM-sponsored IND for ^{18}F-fluorothymidine by the FDA. A community workshop discussing the network and participation in multicenter clinical trials is scheduled for February 2009, following the Midwinter Meeting.

2008 was a year of outreach and collaboration. At the 2008 SNM Annual Meeting a joint SNM/American Society of Clinical Oncology (ASCO) continuing education session was organized. SNM participated in a joint session at the American Society for Therapeutic Radiology and Oncology and was well represented at the Imaging Biomarker Roundtable hosted by the Radiological Society of North America (RSNA). SNM also cosponsored sessions at the World Congress of Molecular Imaging meeting, the American Heart Association, and the American Chemical Society National Meeting. Two patient advocacy breakfasts were held in Washington, DC, in collaboration with the Academy of Molecular Imaging.

Several outreach and collaborative projects are already scheduled for 2009, including the SNM Symposium on Multimodality Cardiovascular Molecular Imaging—cosponsored by AMI, RSNA, ASNC, ASE, SCMR, and the Society for Radiopharmaceutical Sciences—and SNM Annual Meeting continuing education programs with ASCO and the International Society of Magnetic Resonance in Medicine. A visit to Capitol Hill is also planned for April 20 and 21 to advance molecular imaging issues among policymakers.

As we reflect on the accomplishments of this past year, I want to thank the many volunteers and SNM staff who have donated many hours of their time to make the Bench to Bedside campaign and implementation of the strategic plan a continued success. We are about to embark on a new year filled with challenges and opportunities for the sustained promotion of MI and its application in the everyday care of our patients. We look forward to broad participation throughout the coming year.

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