NRC to Re-Address Patient Release

On July 13 the Nuclear Regulatory Commission (NRC) announced that it had directed agency staff to evaluate the potential need for and feasibility of a study to determine radiation doses to members of the public associated with the release of patients treated with medical radioisotopes. The NRC, in a Staff Requirements Memorandum, said the staff "should evaluate whether there are gaps in the available data regarding doses being received by members of the public due to the release of patients treated with medical isotopes, as well as how the agency could go about collecting additional data, if needed." Staff members were directed to present recommendations for an NRC vote.

NRC regulations finalized in 1997 allow patients treated with medical isotopes to be released from a clinic or hospital provided the expected radiation dose to any other individual from the treated patient is not likely to exceed 500 mrem. Physicians are required to give patients written guidance on how to limit exposure to others, especially infants and young children. In recent years, the NRC has expanded the guidance requirement to include advice that patients are "strongly discouraged" from checking into hotels immediately after treatment. In the new memorandum, the NRC said the staff study should weigh the "direct utility of any additional data-gathering exercise against the potential for intruding upon patient privacy protections," and that the staff should "assume written guidance is being followed appropriately," including the recent guidance about hotels. The study should also "fully utilize" previous studies on patient release.

U.S. Nuclear Regulatory Commission

CMS Issues 2012 MPFS and Updates

The Centers for Medicare & Medicaid Services (CMS) on July 1 issued a proposed rule that would update payment policies and rates for physicians and nonphysician practitioners for services paid under the Medicare Physician Fee Schedule (MPFS) in calendar year (CY) 2012. More than 1 million providers of health services to Medicare beneficiaries are paid under the MPFS. The proposed rule again projects a steep across-the-board reduction in payment rates, based on Sustainable Growth Rate (SGR) formula adopted in the Balanced Budget Act of 1997. If the proposed rule goes into effect, Medicare payment rates are projected to be reduced by 29.5% for services in 2012. CMS projects that total payments under the MPFS in CY 2012 will be $80 billion.

This is the eleventh time the SGR formula has resulted in a payment cut, although the cuts have been averted through legislation in all years except CY 2002. In 2010, 3 separate pieces of legislation were necessary to avert the payment cuts, followed by 2 additional enactments that authorized increases in the physician updates, resulting in higher payment rates for physicians' services performed between June 1, 2010, and Dec. 31, 2011. "This payment cut would have serious consequences and we cannot and will not allow it to happen," said Donald M. Berwick, MD, CMS administrator. "We need a permanent SGR fix to solve this problem once and for all. That's why the President's budget and his fiscal framework call for averting these cuts and why we are determined to pass and implement a permanent and sustainable fix."

An accompanying summary statement indicated that in the 2012 proposed rule, CMS is significantly expanding the potentially misvalued code initiative, an effort to ensure Medicare pays accurately for physician services and more closely manages the payment system. This year, CMS is focusing on the highest volume and dollar codes billed by physicians to determine whether these codes are overvalued and if evaluation and management codes are undervalued. In the past, CMS has targeted specific codes for review that "may have affected a few procedural specialties like cardiology, radiology, or nuclear medicine but not taken a look at the highest expenditure codes across all specialties."

The proposed rule would update a number of physician incentive programs, including the Physician Quality Reporting System, the e-Prescribing Incentive Program, and the Electronic Health Records Incentive Program. The rule also includes proposed quality and cost measures that would be used in establishing a new value-based modifier to reward physicians for providing higher quality and more efficient care. The Affordable Care Act requires CMS to begin making payment adjustments to certain physicians and physician groups on January 1, 2015, and to apply the modifier to all physicians by January 1, 2017. CMS noted that it intends to work closely with physicians to ensure that efforts to improve the quality, safety, and efficiency of care do not have unintended consequences for patient access to care.

As part of the proposed rule, CMS is seeking to expand its multiple procedure payment reduction to the professional interpretation of advanced imaging services to recognize the "overlapping activities that go into valuing these services." CMS is also proposing changes in how it adjusts payment for geographic variation in the cost of practice and expanding the list of services that can be furnished through telehealth.

CMS accepted comments to the proposed rule during July and August and expects a final rule to be issued by November 1. For more information, see www.ofr.gov/OFRUpload/OFRData/2011-16972_PI.pdf.

Centers for Medicare & Medicaid Services

HHS Proposes Human Research Changes

The U.S. Department of Health and Human Services (HHS) announced on July 22 that the federal government is assessing various ways to enhance regulations overseeing research on human subjects. The Common Rule has been in place since 1991, and HHS is seeking public input on a number of issues related to the ethics, safety, and oversight of human research. The changes under consideration are included in a 92-page Advance Notice of Proposed Rulemaking, titled *Human Subjects Research Protections: Enhancing Protections for Research Subjects and Reducing Burden, Delay, and Ambiguity for Investigators,* published in the July 25 *Federal Register.* The proposed changes are designed to strengthen protections for human research subjects.

"The adoption of the Common Rule 2 decades ago was a landmark event to ensure ethical practices and the safety of those individuals who participate in research," said Howard K. Koh, MD, MPH, HHS assistant secretary for health. "This regulatory review effort is primarily about enhancing protections for human subjects. The changes under consideration offer the promise of updating and enhancing those protections to keep pace with current challenges." An HHS press release noted that at the time the Common Rule was developed, research was predominantly conducted at universities, colleges, and medical institutions, and each study was likely to be performed at a single site. Expansion of human subject research into many new scientific disciplines and venues and an increase in multisite studies have highlighted ambiguities in the current rules and led to questions about whether the current regulatory framework effectively addresses the needs of researchers and research subjects. Comment was sought on the following proposed changes: (1) revising the existing risk-based framework to more accurately calibrate the level of review to the level of risk; (2) using a single Institutional Review Board review for all domestic sites of multisite studies; (3) updating the forms and processes used for informed consent; (4) establishing mandatory data security and information protection standards for all studies involving identifiable or potentially identifiable data; (5) implementing a systematic approach to the collection and analysis of data on unanticipated problems and adverse events across all trials; (6) extending federal regulatory protections to apply to all research conducted at U.S. institutions receiving funding from the Common Rule agencies; and (7) providing uniform guidance on federal regulations.

To view the document, see: www.hhs.gov/ohrp. For additional information about the changes and to submit comments, see www.hhs.gov/ohrp/humansubjects/anprm2011page.html.

U.S. Department of Health and Human Services

FDA and Mobile App Oversight

On July 19 the U.S. Food and Drug Administration (FDA) announced it is seeking input on its proposed oversight approach for certain mobile applications (apps) specific to medicine or health care and designed for use on smartphones and other mobile computing devices. This approach encourages the development of new apps, focuses only on a select group of applications, and will not regulate the sale or general consumer use of smartphones or tablets.

"The use of mobile medical apps on smart phones and tablets is revolutionizing health care delivery," said Jeffrey Shuren, MD, JD, director of the FDA Center for Devices and Radiological Health. "Our draft approach calls for oversight of only those mobile medical apps that present the greatest risk to patients when they don't work as intended." The agency's draft guidance defines a small subset of mobile medical apps that affect or may affect the performance or functionality of currently regulated medical devices. This subset includes mobile medical apps that:

> (1) Are used as an accessory to a medical device or devices already regulated by the FDA (e.g., an application that allows a health care professional to make a specific diagnosis by viewing a medical image from a picture archiving and communication system on a smartphone or a mobile tablet); or
>
> (2) Transform a mobile communications device into a regulated medical device by using attachments, sensors, or other devices (e.g., an application that turns a smartphone into an ECG machine to detect abnormal heart rhythms or determine whether a patient is experiencing a myocardial infarction).

The agency is seeking public input on this approach, and comments can be submitted through mid-October. For more information or to submit a comment see www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/ucm255978.htm.

U.S. Food and Drug Administration

FDA and Companion Diagnostics

The U.S. Food and Drug Administration on July 12 issued new draft guidance to facilitate the development and review of companion diagnostics—tests used to help health care professionals determine whether a patient with a specific disease or condition should receive a particular drug therapy or how much of the drug to give. The draft document is intended to provide companies with guidance on the agency's policy for reviewing a companion diagnostic and the corresponding therapy.

"These proposed guidelines support the development of innovative new targeted medicines and their corresponding diagnostic tests and are intended to provide manufacturers with greater predictability," said Jeffrey Shuren, MD, director of the FDA's Center for Devi-

ces and Radiological Health. "It is the agency's goal to help stimulate early collaborations between drug and device makers so they can develop the best medical products for treating patients." In a press release, the FDA identified HER2 protein overexpression tests prior to trastuzumab therapy as an example of companion diagnostics.

Although one purpose of the draft guidance is to clarify the FDA definition of a companion diagnostic, it was not immediately clear whether imaging, such as targeted PET studies performed to predict the success of specific chemo- or radioimmunotherapeutic regimens, is included under the definition. The wording of the guidance does not specifically exclude imaging from this definition, and many imaging studies preceding therapeutic regimens would seem to conform to the definition.

The guidance highlights the FDA intention to conduct simultaneous reviews of a drug or biologic therapy and its corresponding diagnostic and identifies instances in which the FDA may approve a targeted medicine in the absence of a cleared or approved companion diagnostic. In cases where the therapy is intended to treat a serious or life-threatening disease or condition for which there is no available or satisfactory treatment and when the potential benefits outweigh the risks of not having a cleared or approved companion diagnostic, the therapy could be approved first and the companion diagnostic may be approved or cleared later through the appropriate device submission process. The FDA recommends early engagement with manufacturers so that the agency's expectations can be included in development plans.

The FDA is seeking public input on the draft guidance until mid-September. For more information, see www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/ucm262292.htm.

U.S. Food and Drug 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. We have added a special section on molecular imaging, including both radionuclide-based and other molecular imaging efforts, in recognition of the extraordinary activity and promise of diagnostic and therapeutic progress in this area. 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.

DIAGNOSIS

Female-Specific Angina Patterns

In an article e-published on July 8 ahead of print in the *Journal of Women's Health*, Mieres et al. from North Shore University Hospital (Manhasset, NY) reported on a study resulting from data gathered for the What is the Optimal Method for Ischemia Evaluation in WomeN? Trial. The authors assessed the frequency of chest pain by measures of ischemia in women with suspected myocardial ischemia who participated in a clinical trial of exercise testing with electrocardiography (ECG) or myocardial perfusion SPECT (MPS). The study included 824 women (average age, 63 y) from 43 centers seen for evaluation of chest pain or anginal equivalent symptoms. Women were assigned randomly to either ECG or ^{99m}Tc-tetrofosmin SPECT. Each participant was also assessed with the Women's Ischemia Syndrome Evaluation, the Seattle Angina Questionnaire for chest pain, and the Duke Activity Status Index instruments. Almost half of participants were found to have family histories of premature coronary disease, hypertension, and/or hyperlipidemia. Sixty percent of participants reported at least 1–3 instances of chest pain symptoms each week. Although women reported minimal physical limitations, they also reported greater frequency of stable chest pain symptoms than did men. Women with more frequent daily episodes of chest pain were more likely to have lower Duke Treadmill Scores, significant ST segment depression, and abnormal MPS. The authors concluded that "Women reporting frequent angina were more likely to exhibit ischemia, and this may characterize a female-specific typical angina pattern."

Journal of Women's Health

SPECT in End-Stage Renal Disease

Coffey et al. from the Royal Preston Hospital (UK) reported in the July issue of *Hemodialysis International* (2011;15:320–325) on a study assessing cardiac output, cardiac index, and left ventricular ejection fraction (LVEF) metrics in end-stage renal disease (ESRD) using gated SPECT. The study included 32 patients (18 with arteriovenous fistulae or grafts) referred for SPECT/CT cardiac assessment before renal transplant. Results in these patients were compared with those from 2 control groups: 42 normal-weight and 46 obese individuals. All participants (except for 4 renal patients who underwent pharmacologic challenge) underwent gated MIBI SPECT after exercise. Cardiac output was calculated as stroke vol-