

record electrophysiological functions and genetic expression at the same time in a single nerve cell. "It represents a very good marriage between two rather different techniques," says Yeh, who created the method in 1992 with a colleague at the University of Pennsylvania.

NIH: Yeh is the principal investigator of three NIH grants, which he will bring with him to DMS. He has also chaired various panels for the National Institute of Neurological Disorders and Stroke and the National Institute of Mental Health.

Yeh accepted the position at DMS because, he says, "Dartmouth had the right mix for me . . . a good academic atmosphere, academic tradition, dedication to teaching, and also the sort of future vision that I felt I could, as a chair, contribute to building.

"Everybody talks about translational research," he continues. But "the issue really is how to go about doing it and where I feel I can do [it] best."

JENNIFER DURGIN



Yeh will bring three NIH grants to DMS.

IOM panel issues mammography recommendations

Mammography equipment has improved dramatically in the last 20 years, yet questions linger about how accurately mammographic images are interpreted. So says a new report from the national Institute of Medicine (IOM).

"We learned from published studies that the technical aspects of imaging have really come a long way," says DMS cancer researcher Patricia Carney, Ph.D. She was one of 12 experts who drafted the IOM report, commissioned by Congress and titled "Improving Breast Imaging Quality Standards."

"The equipment is much better—it's much more standardized," explains Carney, who has been at Dartmouth since 1980 but in September was to join the faculty at Oregon Health Sciences University. "The film processing is more standardized and of high quality," she adds. "The biggest area left unaddressed is radiologist interpretation."

Despite mammography's popularity as a breast-cancer screening tool, it's a flawed test. Mammography fails to detect one out of four cancers and also has a very high false-positive rate—about 75% of women who have an abnormal mammogram and undergo a biopsy turn out not to have breast cancer. Furthermore, the percentage of woman called back for additional imaging or biopsy varies widely from facility to facility and provider to provider. Several studies, notes the report, "have revealed that recall rates . . . range from 3% to 57%

among facilities, and 2% to 13% among individual radiologists."

To help eliminate some of this variability, Carney and her coauthors recommended that mammography centers track at least three measures: 1) the proportion of women recommended for biopsy who are subsequently diagnosed with breast cancer; 2) the number of cancers detected in every 1,000 women; and 3) the proportion of women whose mammogram leads to additional imaging or biopsy.

"Interpreting physicians need to know and understand their current level of performance," says the report, "before they can determine whether and how it could be improved."

Data: Steven Poplack, M.D., codirector of mammography at DHMC, agrees. His department has been tracking its outcomes for over 10 years, and all mammography providers in the Dartmouth-Hitchcock system already collect the data listed in the IOM report. That information is then fed into the New Hampshire Mammography Network, which is housed at DHMC and is one of only seven such registries in the country.

By analyzing this mammography data, Poplack and his team can keep track of long-term outcomes of patients they screen. This helps them know about any patients who had a normal mammogram reading but were later diagnosed with breast cancer. In those cases, "we try to assess whether or not a mistake was made in the imaging," Poplack



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DMS's Carney served on the IOM panel.

explains, "and if so, try to learn from it. And if not, get a handle on what [types of] cases [we] are more apt to miss."

Although the IOM report made several bold recommendations, its release was "incredibly quiet," says Carney. But she expects critics to emerge when the Mammography Quality Standards Act (MQSA) is up for reauthorization in 2007. MQSA was supposed to be reevaluated by Congress this past summer, after the release of the IOM report. Instead Congress reviewed the act in the fall of 2004, several months before the IOM panel completed its analysis. Nevertheless, the report sent a clear message to radiologists and the government: interpretation variability needs to decrease, and for that to happen reimbursement rates need to rise.

Poplack agrees that reimbursements are a major obstacle to better breast imaging. "We have trouble breaking even," he said. "And in this country, if you can't break even . . . you may not be able to offer that service."

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