Panel Endorses Some Pharmacogenomic Tests

BY SUE DARCEY

A few pharmacogenomic tests have been shown to help improve patient outcomes, but most clinical studies of genetic and protein-based tests have not supplied sufficient data on outcomes to guide medical care, members of a Centers for Medicare and Medicaid Services advisory panel concluded.

"Clinical utility is where it's at, and if we can't make good clinical decisions based on test data, then [that data] is useless," said panelist Dr. Nora Janjan of the M.D. Anderson Cancer Center at the University of Texas, Houston, voicing frustrations expressed by a majority of the Medicare Evidence Development and Coverage Advisory Committee (MedCAC) after hearing an Agency for Healthcare Research and Quality (AHRQ) presentation on the quality of clinical studies.

The panel as a whole expressed reasonable confidence in three tests:

- ► HER-2/neu assays for breast cancer treatment.
- ► BCR-ABL assays for diagnosing and monitoring chronic myelogenous leukemia (CML).
- ► K-RAS gene testing for guiding drug choice in metastatic colorectal cancer.

The committee expressed low confidence in CYP2D6 gene testing (for example, Roche's AmpliChip) to guide tamoxifen treatment of breast cancer, UGT1A1 assays for selecting doses of Pfizer's colon cancer drug Camptosar (irinotecan), and pharmacogenomic tests based on the BCR-ABL gene to identify point mutations in CML patients.

HER-2/neu protein assays, the most well-established of the lot, are considered necessary prior to treating breast cancer patients with Roche's Herceptin (trastuzumab). "We believe that it has had a huge impact, already … for improving health outcomes by pinpointing those who need the drug, and by avoiding toxic therapy in those who don't," said Dr. Daniel F. Hayes, an oncologist at the University of Michigan, Ann Arbor.

HER-2/neu assays are widely available via both laboratory methods and Food and Drug Administration–approved kits made by Abbott, Bioview, Genetix, Life Technologies/Invitrogen, and others.

The development of 'new technology that will improve patient outcomes' requires 'substantial rigorous evidence' and not 'just guesses based on sensitivity and specificity.'

K-RAS has received increased attention in recent years, and validation from the American Society of Clinical Oncology, as an aid to choosing colorectal cancer patients to be treated with Eli Lilly/Bristol-Myers Squibb's Erbitux (cetuximab) or Amgen's Vectibix (panitumumab).

Despite the vote of confidence, some panelists said they would like to have seen more clinical evidence on the benefits and harms of K-RAS tests.

Dr. Thomas Trikalinos, a researcher at Tufts University, Boston, who presented the AHRQ review, said his team could not find studies of potential harms of K-RAS assays. Genzyme and Qiagen are among the firms with K-RAS assays, but no K-RAS kits have been approved by the FDA, according to agency staff at the meeting.

Industry speakers at the meeting decried Medicare's slowness in covering such tests, pointing out that many are already in clinical use. Steve Brotman, a senior vice president with AdvaMed, said that although the industry group supports evidence-based decision making, "providing evidence on genetic tests is challenging," and "isolating the impact of tests on health outcomes is very difficult."

MedCAC Chairman Clifford Goodman, a senior vice president with the Lewin Group, noted that the meeting was intended "to help shine a light toward science and new technology that will improve patient outcomes." That goal requires "substantial rigorous evidence" and not "just guesses based on sensitivity and specificity." ■

INTERNAL MEDICINE NEWS and "The Gray Sheet" are both published by Elsevier.