## Technology, Cost Shift Hospital Care to Home

BY M. ALEXANDER OTTO

FROM THE SWEDISH MEDICAL CENTER SYMPOSIUM 'INNOVATION IN THE AGE OF REFORM'

SEATTLE – Home health care will increasingly replace hospital care, panelists said in a discussion of the phenomenon at the symposium.

They weren't just talking about lower-intensity care.

Panelist Dr. Bruce Leff and his colleagues at Johns Hopkins University in Baltimore are among those developing – and disseminating – the Hospital at Home care model.

It's about "true acute care," he said, "taking someone from the emergency department [where a] physician has said 'this person needs to be admitted' " for pneumonia, heart failure, chronic obstructive pulmonary disease, cellulitis, deep vein thrombosis, "and other things that people end up in the hospital for," and treating that person at home.

The "best way this works is when the Hospital at Home is thought of as a virtual unit of the acute hospital. Recently, we've been partnering with proto-ACOs [accountable care organizations] that are very interested in this model," said Dr. Leff, a Hopkins geriatrician and professor of medicine.

Several things are driving the trend, he and other panelists said. Payers want to cut costs by cutting hospital admissions. Hospital executives want to empty beds of patients on whom they lose money; patients generally prefer treatment at home; elderly patients usually do better there; and technology increasingly enables hospital-level home care, panelists said.

Hospitals are being built with fewer beds than they might have had a decade ago. A \$1-billion high-tech tower being built at Johns Hopkins won't add any more beds to the campus, Dr. Leff noted.

Given the trend, if hospitals aren't thinking about how to focus on high-margin patients and effectively treat others in lower-cost settings, "they're dead; they're gone," he said.

The trend toward home care has been embraced by one of the nation's largest health care companies, Louisville, Ky.—based Kindred Healthcare Inc., according to CEO Paul Diaz, also a panelist. "We are increasingly investing in home care because 40% of our discharges are going to home care" already. "That's where we see an opportunity for our patients and our shareholders," he said.

He and others said they think technology will further the trend.

Panelist Diane Cook, Ph.D., a professor of electrical engineering, said she and her colleagues at Washington State University, Pullman, have rigged an apartment on campus with sensors (motion detectors, for instance, and stove-burner monitors) to see if the feedback accurately indicates how well patients – especially the elderly – perform day-to-day tasks, and if they need intervention. If the technology proves itself, it could reduce unnecessary home-health visits, saving

providers time and money. Dr. Cook and her colleagues envision "a lightweight, simple package caregivers can purchase from Home Depot or Lowe's" that would be capable of remote, hospital-level monitoring. The idea is to empower patients to "do as much as they can at home and avoid leaving their personal space to get care," she said.

Dr. Leff and his colleagues plan to pilot an adhesive strip-like sensor that

could be used in the home. It "gives you everything you get in the ICU now, with 14 different probes and needles," he said.

Hospital at Home is "a pretty intense intervention" that can include IV medications; oxygen and respiratory therapy; and x-rays, ultrasounds, and diagnostic labs, Dr. Leff said. Nursing assistants ("a relatively cheap" addition) can help with daily activities, he said.

"A hospital [will be] where you will go

for brief, ultraspecialized, high-tech care," he said.

Dr. Leff said he has no conflicts of interest. His research is supported in part by fees paid to Johns Hopkins for his consulting services. Dr. Cook said she did not have any disclosures.

For more information about Hospital at Home, visit www.hospitalathome.org/DGM/hah.

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