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## RSNA Press Release

### Study Identifies Trends in Self-referred Imaging

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OAK BROOK, Ill. - Self-referred imaging centers, where people with no health-related symptoms can have imaging exams performed without a doctor's recommendation or prescription, are popping up across the United States, with the highest concentration in areas populated by wealthy and highly educated people, according to a study appearing in the August issue of the journal *Radiology*. The study found that of 88 imaging centers, 30 were in California, mainly the southern region. New York ranked second with 13 centers.

Self-directed medical care has greatly expanded during the past decade, partially due to the influence of direct-to-consumer advertising and marketing of health products, prescription pharmaceuticals and surgical procedures. Since the late 1990s, some imaging centers have begun accepting clients without physician referral or input. These self-referred consumers typically have full-body computed tomography (CT) exams that include a noninvasive evaluation of the coronary arteries for calcification, or of the lungs, abdomen, and pelvis for cancer.

"Based on historical precedence, we know that once a healthcare service is introduced directly to the consumer, it is exceedingly difficult to interrupt established practice in order to conduct a comprehensive evaluation," said Judy Illes, Ph.D., lead author of the study and senior research scholar at Stanford Center for Biomedical Ethics and the Department of Radiology, Stanford University, Stanford, Calif. "Instead, they tend to become more accessible and more affordable. That is true for cosmetic surgery, pharmaceutical products and other types of healthcare services," she said.

The study identified 88 centers nationwide, which were concentrated on the east and west coasts. More than half offer full-body screening, with heart and lung scans being the most frequently offered procedures.

The researchers analyzed the Web sites of imaging centers accepting self-referred patients to evaluate geographic and demographic distribution, type of center and services available, cost and procedures for reporting results.

"This study was really a first step in a larger research program. Our first goal was to understand where these centers are," Dr. Illes said. "The subsequent steps will help us to

better understand what motivates people to pursue self-referred imaging, the impact it has on lifestyle choices and on the patient-physician relationship, and the downstream costs to the healthcare system overall."

The researchers specifically found that the largest concentration (34 percent) of self-referral imaging centers was in California, mainly in the southern region of the state, and in New York (15 percent). A full-body scan ranged from \$795 to \$995. A full-body scan including the head averaged \$850, while a full-body scan including a bone density test averaged \$1,215. Slightly more than half (51 percent) of the centers that offered neck-to-pelvis full-body scans offered the scans exclusively to the self-referred screening market. Only 30% of the centers that offer the full-body scans were standard radiology offices or departments. The method of reporting results varied considerably from center to center.

The authors recommend rigorous study of self-referred imaging prior to broad adaptation to protect healthcare consumers from unregulated repeat exams, unexpected health consequences from invasive follow-up and unwarranted healthcare expenditures beyond the initially expected out-of-pocket expense. The researchers believe that healthcare consumers need to be better educated about screening limitations and the expected occurrence of false-positive results. "Even with the services already in place, it is important that radiologists continue to debate the ethics of this new innovation in healthcare," Dr. Illes said. She also believes it is imperative that radiologists develop a set of professional guidelines to which the industry can refer to truly meet its stated goals of benefit.

"The responsibility of decision-making has been shifting away from the physician. Now the process is moving even further to the apparently healthy consumer or the patient being the primary decision maker," Dr. Illes said. "We have to ask the question, 'Are we going too far?'"

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"Self-referred Whole-Body CT Imaging: Current Implications for Health Care Consumers." Collaborating with Dr. Illes on this study were Ellen Fan, B.A., Barbara A. Koenig, Ph.D., Thomas A. Raffin, M.D., Dylan Kann, and Scott W. Atlas, M.D., from Stanford University, Stanford, Calif.