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NEWS

RSNA Press Release

Mobile Mammography Brings Screening to More Native American Women

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At A Glance

- Satellite transmission of digital mammograms allows American Indian women in rural areas better access to breast cancer screening.
- Mammography images can be transmitted rapidly to remote reading centers without loss of image quality.
- Breast cancer mortality rates vary widely among Tribal Nations.

CHICAGO — Breast cancer mortality rates are high for some rural American Indian tribes, but now radiologists are using satellite technology to save more lives. A new project delivers mobile digital mammography services to remote reservations around the country where women previously had limited access to screening and transmits the images via satellite to a qualified radiologist for interpretation. The findings were presented today at the annual meeting of the Radiological Society of North America (RSNA).

"This project demonstrates efforts by the Sioux tribes and the Indian Health Service (IHS) to overcome obstacles to screening in remote areas and provide better health care to these women," said Marilyn A. Roubidoux, M.D., professor of radiology at University of Michigan Health System in Ann Arbor.

Breast cancer mortality rates vary widely among Tribal Nations, ranging from 4.2 per 100,000 in Tucson to 26.3 per 100,000 in North Dakota. While mortality rates among American Indian women remain lower than those of white and African American women, recent reports from the National Center for Health Statistics show the mortality rate for American Indian women increasing when the rates for all other groups are on the decline. Many rural American Indian women are not regularly screened for breast cancer because of poor access to mammography facilities. In addition, decreases in government funding to the IHS compromise the ability of the program to provide adequate screening and management of breast cancers.

For the study, a mobile unit of the Aberdeen Area Indian Health Service was equipped to transmit digital mammography images via a commercial satellite service. The unit performed 515 mammography examinations on 506 patients in rural areas. Mammograms were transmitted to a workstation at the University of Michigan breast imaging division and were interpreted and reported in real time.

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Real-time reporting allowed the patients who required follow-up to get their results and obtain additional work-up while the unit was still in the area. Based on the findings of their initial mammograms, 58 patients were called back. Of these, 42 (72 percent) were able to receive follow-up exams at the mobile unit on the same day or within one to two days after their initial screening. Sixteen patients (28 percent) were unable to return.

Overall, mean turnaround time from acquisition of the image to reporting of the results was 50 minutes, but turnaround time was as short as 30 minutes during optimal communication conditions. Despite the large mammography image file size, image transmission time was reasonable, averaging five minutes per file, and images were not compromised by satellite transmission.

"The results demonstrate that digital mammograms can be transmitted rapidly by satellite without loss of image quality and can be interpreted remotely," Dr. Roubidoux said. "Furthermore, patients reported high satisfaction with the professional and sensitive care they received."

Co-authors are Mark A. Helvie, M.D., Tina Russell, Sarah Dye, M.D., Jackie Quisno, M.D., Anthony Stayner, W. Druley, Mitchell M. Goodsitt, Ph.D., et al.

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RSNA is an association of more than 40,000 radiologists, radiation oncologists, medical physicists and related scientists committed to promoting excellence in radiology through education and by fostering research, with the ultimate goal of improving patient care. The Society is based in Oak Brook, Ill.

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