

# Medical Imaging & African American Health

African Americans in the United States have some of the highest rates of heart disease, breast cancer and other life-threatening diseases. Ensuring appropriate access to medical imaging technologies can help eliminate health disparities and ensure that every patient—regardless of race or ethnicity—reaps the benefits of early disease detection, diagnosis and treatment.

## HEART DISEASE

African Americans have the highest risk of heart disease due to increased rates of severe high blood pressure, diabetes and obesity.<sup>1</sup> Advances in medical imaging have opened the door to improved diagnosis and treatment for heart disease:

- **Cardiac computed tomography angiography (CCTA)** provides a highly accurate image of the heart vessels to determine if low-risk chest pain patients need care or can be discharged from the emergency department and avoid costly, invasive procedures.
- **Positron emission tomography (PET)** diagnoses coronary artery disease (CAD), assesses damage from a heart attack and determines whether a patient will benefit from a surgical intervention.
- **Cardiovascular magnetic resonance (CMR)** can aid in the detection and diagnosis of acute coronary syndromes (ACS) and help determine prognosis.
- **Interventional x-ray** allows for the use of a balloon or stent to treat blocked coronary arteries.

## COLORECTAL CANCER

Colorectal cancer (CRC) is the third most common cancer among African Americans. African-American men and women are diagnosed with and die from CRC at higher rates than any other ethnic group.<sup>2</sup> This disparity is partially due to lower rates of screening among African Americans than whites. CRC screening rates are 56 percent among African Americans, compared with 62 percent among whites.<sup>3</sup>

**Computed tomographic colonography (CTC)**—or “virtual colonoscopy”—is as effective as traditional colonoscopy in detecting colorectal cancer and precancerous polyps—and is a less invasive screening option. A study at the National Naval Medical Center in Bethesda, MD found that 37 percent of patients who underwent colon cancer screening said they would not have been screened without access to virtual colonoscopy.<sup>4,5</sup> Access to CTC provides a less-invasive screening alternative that would help reduce the CRC health disparity among African Americans.

# Medical Imaging & African American Health (continued)

## BREAST CANCER

Breast cancer is the most common form of cancer and the second leading cause of cancer death among African American women.<sup>6</sup> Even though the rate of breast cancer incidence is 10 percent lower among African American women, they are 40 percent more likely to die from the disease.<sup>7</sup> Earlier screening and detection for African American women could help reduce this death rate. Access to medical imaging improves survival rates by detecting tumors at an earlier stage when there are more treatment options available:

- **Traditional x-ray mammography** is used to screen in recommended populations. Mammography correctly identifies cancer in about 78% of women who have breast cancer, and among women over age 50, it identifies cancer in about 83%.<sup>8</sup>
- **Magnetic resonance imaging (MRI)** can help detect early tumors in women with dense breasts.
- **Ultrasound** can distinguish tumors from benign cysts without invasive procedures.
- **Positron emission mammography** can identify very small cancers and monitor response to chemotherapy or find recurrences.
- **Imaging guided radiation therapy** targets treatment to the tumor, avoiding healthy tissues.
- **Breast tomography** provides 3D images that increase accuracy and reduce false positives in breast cancer screening, especially in women with dense breasts.

## African Americans are 20 percent more likely to have asthma than whites

### ASTHMA

African Americans are 20 percent more likely to have asthma than whites, and black children are 3.6 times more likely to visit the emergency department for asthma than white children.<sup>9</sup> There are several tests that can be done to determine if a patient is suffering from asthma or another respiratory illness and help find a successful treatment. For patients with severe asthma symptoms, a chest X-ray and high-resolution computed tomography (CT) scan of the lungs and nose cavities can assess structural abnormalities and monitor response to treatment.

<sup>1</sup> <http://www.cdc.gov/heartdisease/facts.htm>

<sup>2</sup> <http://www.cancer.org/cancer/colonandrectumcancer/moreinformation/five-myths-about-colorectal-cancer>

<sup>3</sup> <http://www.cancer.gov/cancertopics/disparities/lifelines/2013/2013-colorectal-cancer-AA.pdf>

<sup>4</sup> FJ Moawad, et al. "CT Colonography May Improve Colorectal Cancer Screening Compliance." *American Journal of Roentgenology*. 195.5 (2010): 1118-1123.

<sup>5</sup> Fenton, J. J., Tancredi, D. J., Green, P., Franks, P. and Baldwin, L.-M. (2009), Persistent Racial and Ethnic Disparities in Up-to-Date Colorectal Cancer Testing in Medicare Enrollees. *Journal of the American Geriatrics Society*. 57: 412-418. doi: 10.1111/j.1532-5415.2008.02143.x

<sup>6</sup> <http://www5.komen.org/BreastCancer/Statistics.html#AfricanAmerican>

<sup>7</sup> NCI 2013. Seer Cancer Statistics Review, 1975-2010. Table 4.19. [http://seer.cancer.gov/csr/1975\\_2010/sections.html](http://seer.cancer.gov/csr/1975_2010/sections.html)

<sup>8</sup> <http://www5.komen.org/BreastCancer/EarlyDetectionReferences.html>

<sup>9</sup> <http://minorityhealth.hhs.gov/templates/content.aspx?ID=6170>