ALZHEIMER’S DISEASE

More than 5 million Americans have Alzheimer’s disease today, and by 2050, the number of people age 65 and older with Alzheimer’s may nearly triple.²

For many years, Alzheimer’s has been difficult to distinguish from other common conditions associated with aging. Now, positron emission tomography (PET) imaging can detect the presence of beta amyloid plaque in the brain—a common indication of Alzheimer’s—and help physicians diagnose patients earlier, when there is more time for their family and caregivers to plan accordingly. The ability to rule out Alzheimer’s through beta amyloid PET imaging could also help physicians avoid prescribing inappropriate or unnecessary treatments.

VIRTUAL COLONOSCOPY

Colon cancer is the second-leading cause of cancer-related deaths in the United States, despite having a 90% cure rate when detected early. Computed tomography colonography (CTC), or “virtual colonoscopy,” uses a low-dose CT scan to detect polyps and tumors in the colon and is faster to perform than traditional colonoscopy. Because sedation is not required, there is minimal recovery time and patients do not need a companion to drive them home—all of which may help increase compliance to recommended screening, leading to earlier detection. Data collected by the National Naval Medical Center in Bethesda, MD showed that, when given the option, 40 percent of patients chose to undergo virtual colonoscopy, and 37 percent of patients who underwent colon cancer screening said they would not have been screened without virtual colonoscopy.³,⁴
It costs $21 billion a year to treat the two million fractures that occur annually—and by 2025, this cost is projected to rise to $25 billion.

OSTEOPOROSIS

More than 40 million Americans either already have osteoporosis or are at high risk due to low bone mass. Among the many factors that contribute to osteoporosis or bone loss is age: one in two women and one in four men age 50 and older will break a bone rendered brittle by osteoporosis. Dual-energy X-ray absorptiometry (DXA) measures bone mineral density to spot high-risk patients so they can take steps to help avoid fractures. This knowledge is essential, as it costs $21 billion a year to treat the two million fractures that occur annually—and by 2025, this cost is projected to rise to $25 billion. A study published in Health Affairs found that DXA testing plateaued in 2007–09, resulting in 800,000 fewer tests than expected for Medicare beneficiaries—tests that may have prevented approximately 12,000 fractures.

STROKE

Stroke is the fourth leading cause of death in the United States, killing 130,000 people annually, and is a leading cause of disability for those who survive. Determining whether a stroke was caused by a blood clot is crucial, since clot-busting drugs can worsen symptoms—or kill—if a stroke has other causes. Advanced medical imaging plays an essential role in the early evaluation of stroke patients:

- Diffusion magnetic resonance imaging (MRI) scans administered immediately following a stroke help assess the severity of any brain damage so patients can be treated more quickly.
- Magnetic resonance angiography (MRA) detects less common causes of ischemic stroke.
- Computed tomography (CT) or magnetic resonance imaging (MRI) can help reveal the cause of stroke, assess the severity and determine whether a patient requires hospitalization. The ability to prevent consequent hospital stays yield $1-2 billion in nationwide net savings.

For more information, visit medicalimaging.org/imagingforward.

2 http://www.alz.org/alzheimers_disease_facts_and_figures.asp#quickFacts
5 http://www.niams.nih.gov/Health_Info/Bone/Osteoporosis/osteoporosis_ff.asp
6 http://nof.org/articles/235
7 http://content.healthaffairs.org/content/30/12/2362.abstract
9 https://www.aan.com/PressRoom/Home/PressRelease/849
10 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3088377/