"If you think research is expensive, try disease." — Mary Lasker 1901–1994

**Investment in research saves lives and money**

**Facts about:**

**Pictures of Health**

Medical imaging technologies allow health care professionals to "see" inside the body. Technologies like MRI (magnetic resonance imaging), X-ray, ultrasound, CT (computed tomography) and PET (positron emission tomography), help to diagnose and treat health problems otherwise hidden.

**Today:**

- There have been dramatic reductions in mortality from heart disease, stroke and certain types of cancer over the last 50 years. Advances in medical imaging are key in our ability to prevent, detect and treat these leading killers.
- More women survive breast cancer because mammography can detect the disease at an earlier, more treatable stage.
- Medical imaging has revolutionized the way researchers diagnose, treat and study the brain. Technologies like PET scans and MRI allow researchers and doctors to visualize brain structure and function.
- Image-guided therapies, such as angioplasty, are less invasive and more precise than surgery, resulting in faster recovery, fewer infections and fewer complications.

**How research saves lives:**

- Lung cancer can be detected by low-dose CT screening at an earlier stage than traditional screening methods, increasing the likelihood of survival and lowering treatment costs.*
- Ruptured abdominal aortic aneurisms (AAA) are so lethal they kill more than half of all victims—15,000 annually in the U.S. A preventive ultrasound screening test reduces mortality from AAA by 43 percent in men who are at greatest risk. **

**How research saves money:**

- Performing CT scans on stroke patients when they arrive at the hospital is cost-effective because they are diagnosed faster and more accurately, have shorter hospital stays and experience better quality of life.*
- Uterine fibroids cause more than 5 million lost work days and 200,000 hysterectomies a year. Uterine fibroid embolization is an image-guided treatment that allows women to return to work two to four times faster than a hysterectomy.**

**Survivor**

**Name:** DANNY CORNELIUS

**Age:** 53

**Disease:** Glioblastoma Multiforme (Brain Tumor)

In 2003, Danny Cornelius of Trimble, Missouri was diagnosed with an aggressive type of brain tumor. His surgeons removed as much of the tumor as possible and told Danny he had only a year to live.

Danny and his wife Tarra scoured the country to find specialists who could give Danny a greater chance of survival. At Duke University Medical Center, they found Drs. Henry Friedman and David Reardon, who are developing new treatments that target radiation to the site of tumors. After another surgery to remove more of his tumor, Danny started the experimental treatment. He continued his treatment in his community through a collaboration with the Kansas City Cancer Centers.

During a follow-up MRI, a possible new growth was identified. Using a PET scan, since it shows the functioning of the brain rather than the structure, doctors were able to determine that the tumor had not begun to re-grow and the abnormality was probably dead tissue. The PET scan saved Danny the pain and expense of another surgery.

"The PET scans are our compass. They tell us the direction we need to be heading for treatment," said Danny. Tarra and Danny appreciate the value of PET scans and other imaging technologies developed through research. Tarra said, "We need to continue investing in research. Imaging saves money down the line because it can prevent unnecessary medical procedures."


**Survivor**

**Name:** DANNY CORNELIUS

**Age:** 53

**Disease:** Glioblastoma Multiforme (Brain Tumor)

In 2003, Danny Cornelius of Trimble, Missouri was diagnosed with an aggressive type of brain tumor. His surgeons removed as much of the tumor as possible and told Danny he had only a year to live.

Danny and his wife Tarra scoured the country to find specialists who could give Danny a greater chance of survival. At Duke University Medical Center, they found Drs. Henry Friedman and David Reardon, who are developing new treatments that target radiation to the site of tumors. After another surgery to remove more of his tumor, Danny started the experimental treatment. He continued his treatment in his community through a collaboration with the Kansas City Cancer Centers.

During a follow-up MRI, a possible new growth was identified. Using a PET scan, since it shows the functioning of the brain rather than the structure, doctors were able to determine that the tumor had not begun to re-grow and the abnormality was probably dead tissue. The PET scan saved Danny the pain and expense of another surgery.

"The PET scans are our compass. They tell us the direction we need to be heading for treatment," said Danny. Tarra and Danny appreciate the value of PET scans and other imaging technologies developed through research. Tarra said, "We need to continue investing in research. Imaging saves money down the line because it can prevent unnecessary medical procedures."


**Survivor**

**Name:** DANNY CORNELIUS

**Age:** 53

**Disease:** Glioblastoma Multiforme (Brain Tumor)

In 2003, Danny Cornelius of Trimble, Missouri was diagnosed with an aggressive type of brain tumor. His surgeons removed as much of the tumor as possible and told Danny he had only a year to live.

Danny and his wife Tarra scoured the country to find specialists who could give Danny a greater chance of survival. At Duke University Medical Center, they found Drs. Henry Friedman and David Reardon, who are developing new treatments that target radiation to the site of tumors. After another surgery to remove more of his tumor, Danny started the experimental treatment. He continued his treatment in his community through a collaboration with the Kansas City Cancer Centers.

During a follow-up MRI, a possible new growth was identified. Using a PET scan, since it shows the functioning of the brain rather than the structure, doctors were able to determine that the tumor had not begun to re-grow and the abnormality was probably dead tissue. The PET scan saved Danny the pain and expense of another surgery.

"The PET scans are our compass. They tell us the direction we need to be heading for treatment," said Danny. Tarra and Danny appreciate the value of PET scans and other imaging technologies developed through research. Tarra said, "We need to continue investing in research. Imaging saves money down the line because it can prevent unnecessary medical procedures."


**Survivor**

**Name:** DANNY CORNELIUS

**Age:** 53

**Disease:** Glioblastoma Multiforme (Brain Tumor)

In 2003, Danny Cornelius of Trimble, Missouri was diagnosed with an aggressive type of brain tumor. His surgeons removed as much of the tumor as possible and told Danny he had only a year to live.

Danny and his wife Tarra scoured the country to find specialists who could give Danny a greater chance of survival. At Duke University Medical Center, they found Drs. Henry Friedman and David Reardon, who are developing new treatments that target radiation to the site of tumors. After another surgery to remove more of his tumor, Danny started the experimental treatment. He continued his treatment in his community through a collaboration with the Kansas City Cancer Centers.

During a follow-up MRI, a possible new growth was identified. Using a PET scan, since it shows the functioning of the brain rather than the structure, doctors were able to determine that the tumor had not begun to re-grow and the abnormality was probably dead tissue. The PET scan saved Danny the pain and expense of another surgery.

"The PET scans are our compass. They tell us the direction we need to be heading for treatment," said Danny. Tarra and Danny appreciate the value of PET scans and other imaging technologies developed through research. Tarra said, "We need to continue investing in research. Imaging saves money down the line because it can prevent unnecessary medical procedures."


**Survivor**

**Name:** DANNY CORNELIUS

**Age:** 53

**Disease:** Glioblastoma Multiforme (Brain Tumor)

In 2003, Danny Cornelius of Trimble, Missouri was diagnosed with an aggressive type of brain tumor. His surgeons removed as much of the tumor as possible and told Danny he had only a year to live.

Danny and his wife Tarra scoured the country to find specialists who could give Danny a greater chance of survival. At Duke University Medical Center, they found Drs. Henry Friedman and David Reardon, who are developing new treatments that target radiation to the site of tumors. After another surgery to remove more of his tumor, Danny started the experimental treatment. He continued his treatment in his community through a collaboration with the Kansas City Cancer Centers.

During a follow-up MRI, a possible new growth was identified. Using a PET scan, since it shows the functioning of the brain rather than the structure, doctors were able to determine that the tumor had not begun to re-grow and the abnormality was probably dead tissue. The PET scan saved Danny the pain and expense of another surgery.

"The PET scans are our compass. They tell us the direction we need to be heading for treatment," said Danny. Tarra and Danny appreciate the value of PET scans and other imaging technologies developed through research. Tarra said, "We need to continue investing in research. Imaging saves money down the line because it can prevent unnecessary medical procedures."

Hope for the Future:

- Researchers are developing molecular imaging capable of identifying changes and abnormalities before symptoms even appear. Doctors will be able to treat diseases at a much earlier stage, increasing chances for survival and complete recovery.*

- Innovations in digital imaging and telemedicine will give patients in remote rural centers access to specialists across the country or globe. These new health information technologies will lead to faster diagnoses, lower costs and better quality of care.


The Bottom Line:

Dramatic advances in medical imaging technologies have allowed doctors to detect, diagnose and treat diseases earlier and more accurately, often reducing costs. Americans will benefit from sustained investment in research on medical imaging through the continued development of less invasive, more precise and cost-effective diagnostics and treatments.

Americans Believe Health Care Should Be Based On Best Research

Do you believe that the health care services you receive should be based on the best and most recent research available?

SOURCE: NATIONAL SURVEY, 2005 CHARLTON RESEARCH COMPANY FOR RESEARCH!AMERICA

The New England Journal of Medicine selected medical imaging as one of the 11 most important innovations of the past 1,000 years — alongside other medical milestones, such as the development of anesthesia.