INTRODUCTION:
- From 1998 to 2008, the percentage of women 85 and older, the ‘Oldest Old’, in Massachusetts grew from 2% to 2.9% of the population and the percentage of men grew from 1.9% to 2.3%, a trend which mirrored the national trend and is likely to continue given the advances in health care.
- This project focused on the epidemiology of cancer in this group for the most recently available five years of data, 2004-2008, with the exception of 1998-2008 data used for the long-term trend analyses.
- As the age spectrum and life span increase, better knowledge of the epidemiology of cancer within this group will become increasingly relevant.
- The presence of co-morbidities (heart disease, diabetes, hypertension, arthritis, and COPD) are higher among the oldest old than in the general population. These conditions may influence what type of cancer treatment can be offered and opportunities to join clinical trials.
- When compared with younger patients, older cancer patients less receive looking, less aggressive surgery, and less systemic therapy.
- Cancer in the oldest old is commonly believed to grow more slowly and metastasize less frequently. This is confirmed from autopsy studies that showed metastases from stomach, pancreas, and lung decreased with age.

CANCER INCIDENCE IN THE OLDEST OLD:
Population Breakdown in Massachusetts by Sex and Age, 2004-2008

CONCLUSIONS:
- While cancer is a disease of aging, owing to the full expression of genetic risks, environmental exposure, and injuries and many cancers reach their incidence peak in this oldest age group; some cancers such as prostate, female breast, esophageal, bladder, liver, Hodgkin and non-Hodgkin lymphoma, thyroid, and esophageal peaked before the age of 85.

CANCER STAGING:
- When compared with males younger than 85, males 85+ were significantly more likely to be diagnosed with lung cancer that had metastasized to a distant site.
- There were no significant differences in stage by age group for male colorectal cancer.
- When compared with males younger than 85, males 85+ were significantly more likely to be diagnosed with prostate cancer that had metastasized to a distant site.
- When compared to younger females, females 85+ were significantly more likely to be diagnosed with breast cancer at a localized or regional stage.

Top 5 Major Cancers Among the Oldest Old in Massachusetts, 2004-2008

Top 5 Major Cancers Among the Oldest Old in Massachusetts, 2004-2008

Cancer Cases Breakdown in Massachusetts by Sex and Age, 2004-2008

Top 10 Disparaggregated Cancers Among the Oldest Old in Massachusetts, 2004-2008

INCIDENCE RATES FOR TOP 5 CANCERS IN MASSACHUSETTS MALES 85+, 1998-2008

INCIDENCE RATES FOR TOP 5 CANCERS IN MASSACHUSETTS FEMALES 85+, 1998-2008

Among oldest old males, colorectal and prostate cancer incidence rates dropped significantly from 1998 to 2008, perhaps a reflection of better screening of these cancers in the younger age groups.

Among oldest old females, breast and colorectal cancer incidence rates dropped significantly from 1998 to 2008, perhaps another reflection of better screening in the cancer in the young age groups.

Conversely, melanomas rates significantly increased among males, indicating the need for better screening in all age groups.

Among oldest old females, breast and colorectal cancer incidence rates dropped significantly from 1998 to 2008, perhaps another reflection of better screening in the cancer in the young age groups.

Conversely, lung cancer rates among females significantly increased, perhaps a reflection of female smoking rates increasing several decades ago.

While cancer with an unknown primary site still ranked 4th among cancers in females 85 and older, the rate declined significantly from 1998 to 2008, indicating better primary site detection.

Top 5 Major Cancers Among the Oldest Old in Massachusetts, 2004-2008

Males:

- Lung
- Prostate
- Colon/Rectum
- Breast
- Pancreas

Females:

- Lung
- Breast
- Colon/Rectum
- Pancreas
- Prostate

When compared to younger males, older prostate cancer incidence rates were significantly higher among the oldest old than in the general population. They bear a cancer burden unmatched by any other demographic group in Massachusetts and yet significantly larger amounts of data are missing on this group (primary site, stage, histology, and confirmation method) compared to younger groups. This a group that may hold some answers as to why cancer grows slower and takes longer to occur in some people.

Future Research Questions:
- What sort of treatment does this age group receive compared to other groups?
- What is the cancer-specific mortality for this group? How many of the oldest old die from other conditions instead of cancer?
- How can missing data on stage, histology, and diagnostic confirmation be better collected?

REFERENCES: