

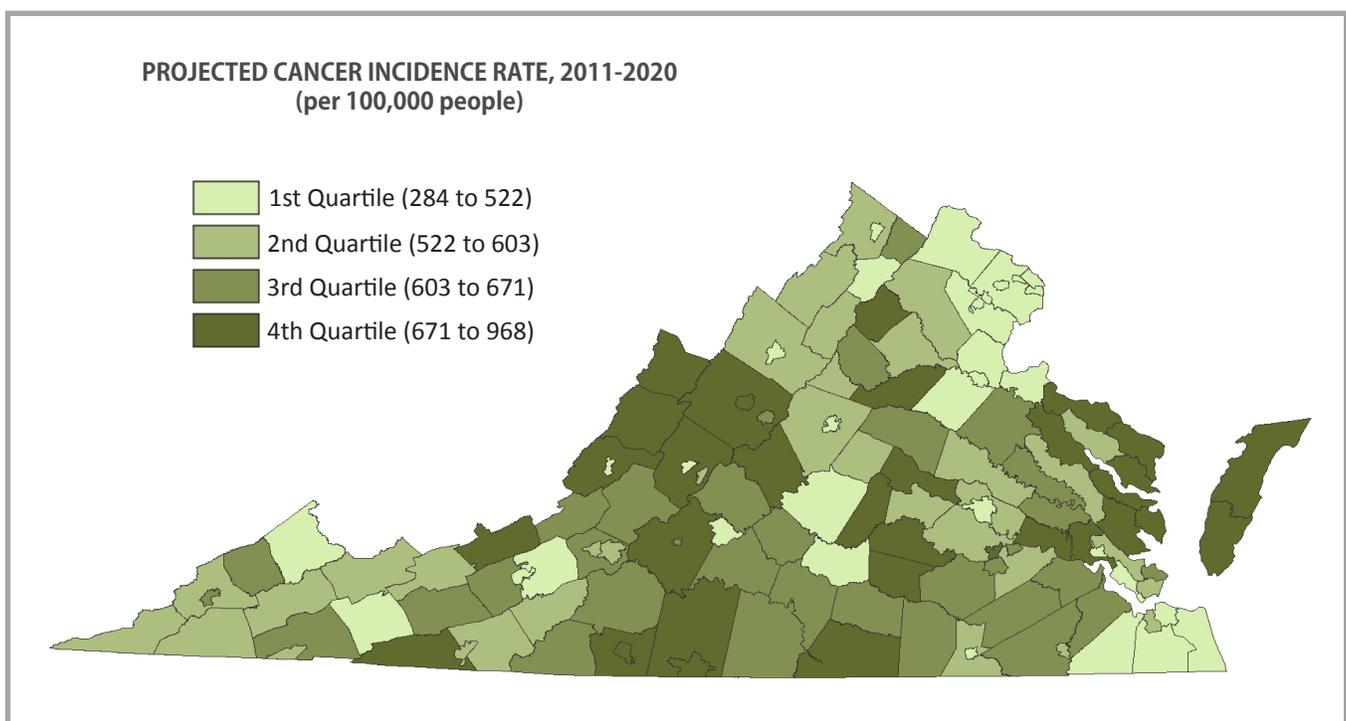
## Projecting Cancer Incidence in Virginia

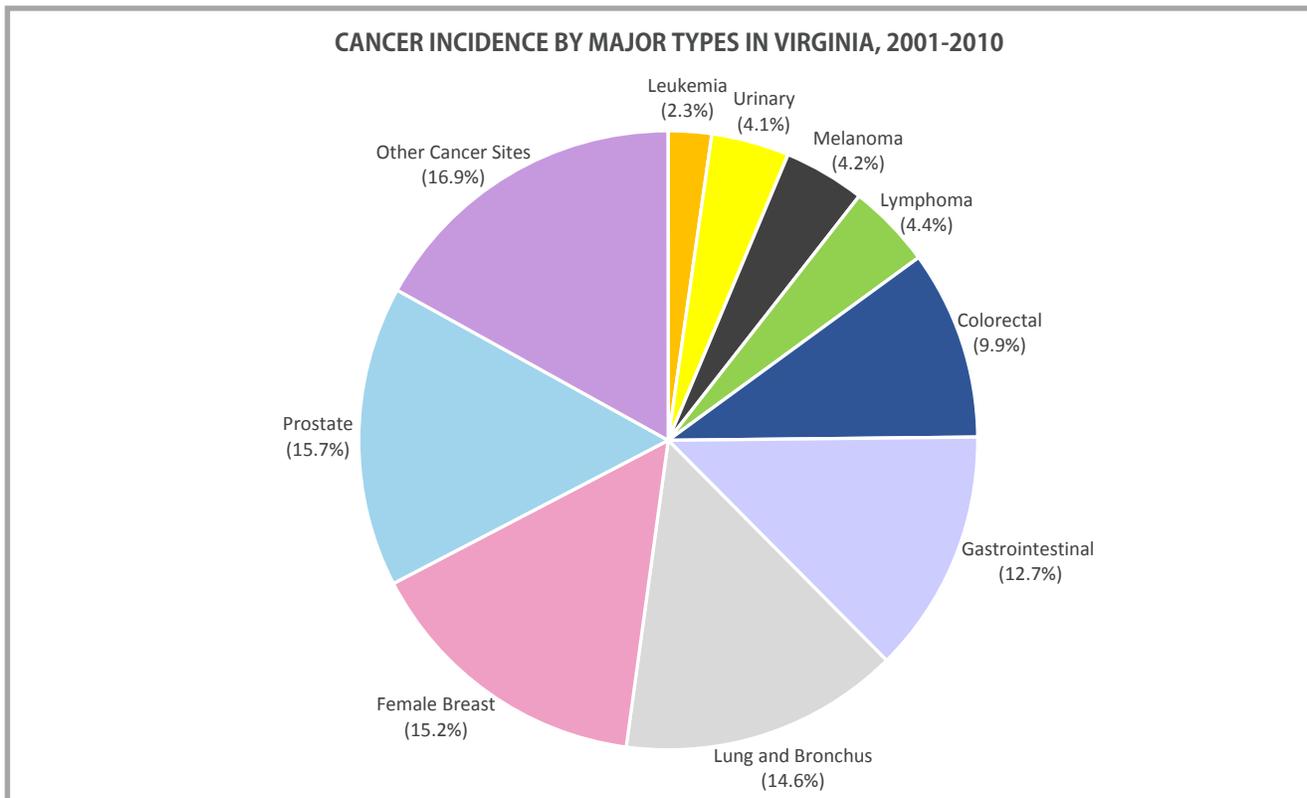
Cancer is a leading cause of death in Virginia<sup>i</sup>. Between 2001 and 2010, more than 340,000 new cancer cases were diagnosed. While steady and significant progress has been made in cancer diagnostic techniques, treatment, and survival, the impact of cancer on the lives of individuals and their families—and on the Commonwealth—is notable.

Anticipating the future burden of cancer in Virginia sets the stage for policy development and resource allocation appropriate to cancer's impact on individuals, families, communities, employers, the Virginia workforce, and an already stressed health care industry scrambling to keep up with demand. Projecting incidence of cancer in Virginia over the next few decades provides one element of the foundation to address these needs<sup>ii</sup>.

The projected number of new cancer cases depends on both the size of the population and its age profile. Since the population of Virginia is growing and the baby-boomer generation is aging, and since the vast majority of cancer diagnoses occur in people over age 55,<sup>iii</sup> we anticipate the increase of new cancer cases to significantly outpace population growth.

Cancer incidence projections were developed for Virginia, its 95 counties, and 39 independent cities,<sup>iv</sup> over the three decades of 2011-2020, 2021-2030, and 2031-2040. Within this timeline and geography, we focused on the three most commonly occurring cancers—lung, breast (for females alone), and prostate (for males alone)—as well as an aggregate projection for all types/sites of cancer.





Some of the key findings are:

- In the near future, the projected cancer incidence growth outpaces the population growth, primarily due to an aging population. While the statewide population is projected to increase by about 10 percent by the end-point of each decade, the number of new cancer cases over the course of the decades ending in 2020, 2030, and 2040 is expected to increase by 26 percent, 20 percent, and 12 percent, respectively. The difference between the rate of population growth and the rate of increase in cancer incidence illuminates the significant impact of an aging population. The momentum of increase in the cancer burden is projected to slow each decade, especially after 2030, in part due to a much smaller baby-bust cohort, which followed the baby-boom generation.
- The highest projected number of new cancer cases for the current decade of 2011-2020 are in the state's major metropolitan areas, especially among population centers such as Fairfax County, Virginia Beach, Chesterfield, Henrico, and Prince William.
- On the other hand, the largest percentage increases are projected to take place in the fast-growing localities of Stafford, Loudoun, Spotsylvania, Prince William and James City, which top the list for the highest projected change in terms of new cancer cases between the decades of 2001-2010 and 2011-2020.
- The cancer burden, measured by new cancer cases per 100,000 people, is greatest among some of Virginia's rural counties with older populations. While many rural communities are not expecting much growth in population

size, the aging of the community is certain and significant. Where the young tend to move away, and older residents continue to stay, cancer incidence rates are already high and keep rising over time as the population becomes even older. By 2020, Northampton, Lancaster, Northumberland, Middlesex, and Mathews are projected to be counties with the highest cancer incidence rates, above or near 900 cases per 100,000.

- Statewide, more than 70,000 prostate cancer cases, nearly 63,000 breast cancer cases, and 64,000 lung cancer cases are projected to be diagnosed during this decade, 2011-2020.
- Prostate cancer incidence rate is projected to increase to 191 cases per 100,000 people in 2031-2040, compared to 146 in 2001-2010. Population aging plays a key role in the increase of this highly age-associated, male-specific cancer. Female breast cancer cases per 100,000 is projected to increase from 134 to 154 between the same time periods.

While projections are inherently uncertain, as the future is largely unknown, accuracy at larger geographic levels—and for the near future—are believed to be highly valuable and useful. The Virginia cancer incidence projections, based on observed trends in both population and cancer rates, provide a lens to look into the future and

understand the burden of the disease. These projections not only illuminate the importance of research to prevent, diagnose, and treat cancer, but also highlight the needs and priorities for resource allocation across the Commonwealth as we come to terms with the disease over the next several decades.

Pending funding, the Demographics Research Group will develop additional projections for Virginia of incidence of other cancer types, and of deaths from cancer over the three decades in this report. In addition, three-decade projections of cancer incidence and deaths for the nation overall and for the 50 states can be developed, if funding is available.

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<sup>i</sup> From *Cancer in Virginia 2014* release using VDH Division of Health Statistics, based on combined 2008-2012 data. Mortality rates are age-adjusted to the 2000 U.S. standard population.

<sup>ii</sup> Please refer to the methodology document for details

<sup>iii</sup> Age is an established risk factor for cancer. *Cancer Facts and Figures 2015*, The American Cancer Society

<sup>iv</sup> Our projections are based on 2001-2010 Virginia Cancer Registry data which consider Bedford County and Bedford city as separate localities, we continue to report the numbers for them separately. As of July 2013, Bedford city reverted to being an incorporated town and lost its independent city status; so projections for Bedford County and Bedford city can be aggregated under a single locality.

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