

<https://www.vdh.virginia.gov/content/uploads/sites/119/2025/04/2024-Richmond-and-Henrico-CHA.pdf>

<https://www.vdh.virginia.gov/data/chronic-disease-in-virginia/>

<https://societyhealth.vcu.edu/media/society-health/pdf/RVAHealthEquityFINAL.pdf>

<https://www.wric.com/news/local-news/richmond/rare-disease-day-richmond-mother-turns-grief-into-advocacy-after-losing-son-to-rare-disease/>

<https://www.vdh.virginia.gov/richmond-city/cha/>

<https://pmc.ncbi.nlm.nih.gov/articles/PMC6813935/>

<https://www.vpm.org/news/2023-08-01/richmond-area-health-data-black-white-outcome-disparities>

<https://www.vdh.virginia.gov/content/uploads/sites/119/2024/10/CHA-2-pager-Draft-1.pdf>

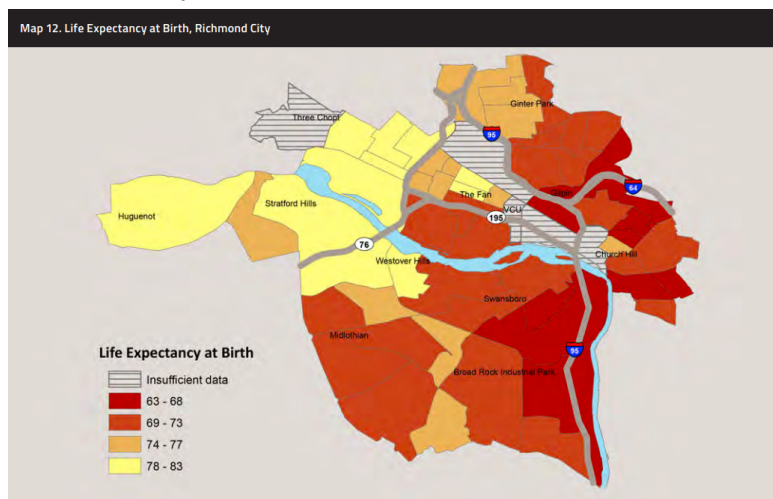
Background Information:

With genetic advancements, genetic analysis from DNA information shared has become more accessible in the world. Genetic privacy poses a concern as it reveals information about biological relatives and how predisposed people are to have a disease based on their ancestry. Clinicians, biomedical researchers, law enforcers, and life insurers all have access to this data which leads to the issue of consent. Our mission is to safely use geographical, demographic and socioeconomic characteristics to determine the likelihood of chronic diseases to

Statistics:

Life Expectancy:

The Richmond metropolitan counties have a life expectancy varying by 20 years across the Richmond City.



Heart Disease Death Rate

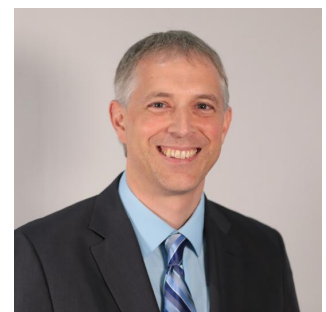
In 2012, heart disease death rates were 203.4 deaths per 100,000 in Richmond City which is higher than the state average.

Infant Mortality Rate

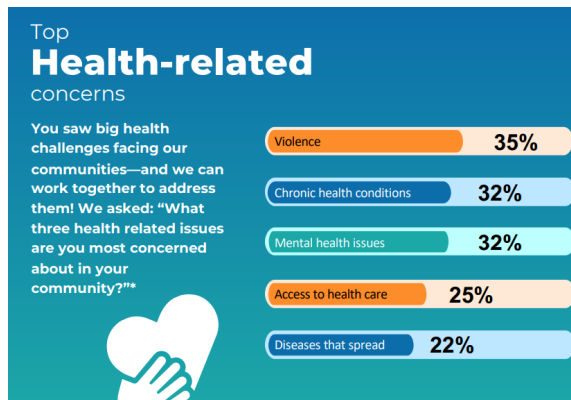
The infant mortality rate in Richmond City is 12.3 per 1,000 live births due to the lack of prenatal care in some areas. One of the main factors of preterm delivery of low birth weight are chronic health conditions.

Important Quotes:

“The health differences between neighborhoods are rarely due to a single cause. So it's kind of a complex web of factors,” said Chapman. “We really have to address multiple factors simultaneously and comprehensively to address this.”



[^]Derek Chapman, interim director of the [VCU Center on Society and Health](#)



The Richmond & Henrico Health Districts obtained a census of 1,126 local residents to develop their 2024 RHHD Community Health Assessment

Story:

Donna Renyolds, a Richmond resident, suffered the loss of her 9-year old son, Kellan, to a rare mitochondrial disease which impacted his ability to produce a normal rate of energy. Kellan experienced symptoms including constant fevers, mobility and immunity issues for most of his lifetime. However, due to the lack of awareness and funding of research for these rare diseases, the family found out about the diagnosis too late. “It makes me angry that it took so long. It was – they kind of lab-ratted him in the beginning and I feel kind of sad that he had to go through that,” Reynolds said. According to the National Institutes of Health, Rare diseases affect 1 in 10 Americans and the road to diagnosis may come to light after it is too late.

Dr. Mary Elizabeth Parker, a medical liaison with the U.R. Our Hope, voices her concerns stating “Most of the individuals that come to us, it takes seven years to get a disorder. And most children died before we got a diagnosis.” An increased amount of support for these rare diseases are needed, especially, in geographic regions which have lower access to affordable healthcare.



Statistics:

- In 2023, there were 53,348 deaths among Virginians related to common chronic conditions.
- In 2023, there were nearly 1.8 million hospitalizations among Virginians related to 12 common chronic disease conditions.
- <https://www.vdh.virginia.gov/content/uploads/sites/119/2017/09/RCHD-CHA-Aug-2017.pdf>
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- Females experienced higher rates of death for Alzheimer's disease & related dementias, asthma, and stroke.
- Males experienced higher rates of death for cardiovascular disease, chronic kidney disease, chronic obstructive pulmonary disease, diabetes, heart disease, and hypertension.

SCRIPT:

Mahek:

HOME PAGE

Good morning, everyone! Thank you for joining us as we are excited to introduce our website - RVA Health Scope, a platform dedicated to shedding light on healthcare disparities in the Richmond area.

Our mission is simple: **to raise awareness about healthcare disparities and provide a tool for education**—helping people better understand chronic diseases in richmond and empowering them to take preventive measures before their health conditions worsen.

We not only showcase the emotional and personal impacts but also by quantifying the factors and demonstrating the statistical significance of healthcare disparities.

The website is designed for everyone, especially those in areas where healthcare information may not be as accessible.

The website provides:

- **information about chronic diseases**
- **personal impacts**
- **Statistical evidence**
- **A chatbot feature**

- In the word of derek Chapman. “We really have to address multiple factors simultaneously and comprehensively...” we were inspired by these words and would like to share a story of how this impacts richmond residents.

SCROLL DOWN TO THE PERSONAL IMPACT

Riya:

Consider the story of Kellan, a 9-year-old Richmond boy who lost his life to a rare mitochondrial disease. Kellan experienced constant fevers and mobility issues throughout his life, but due to a lack of awareness and funding for research, his family didn't receive a diagnosis until it was too late. Donna Reynolds, Kellan's mother, shared her frustration: "It makes me angry that it took so long. He had to go through so much before we knew what it was."

Rare diseases similar to Kellan's case affect 1 in 10 Americans. Dr. Mary Elizabeth Parker from U.R. Our Hope, notes, "It can take seven years to get a diagnosis, and many children die before we can help." More support is needed, especially in areas with limited access to affordable healthcare.

Healthcare disparities in underserved, low-income communities in Richmond contribute to a cycle of preventable chronic diseases like diabetes, hypertension, and heart disease. Access to proper healthcare and resources is limited, but education is key. When people are informed about their health, they can make better decisions and take control of their well-being. Kellan is not alone so let's take a look at numbers.

Sanjana:

- Lets look at some statistically significant evidence that effectively displays health disparities in Richmond.

- (FIRST GRAPH)When a survey of Richmond and Henrico County residents was taken, which consisted of 1126 individuals, one of the highest health-related concerns among residents was chronic health conditions. This interactive graph shows the percent of people affected by specific circumstances, with health disparities and chronic health conditions being one of the higher concerns.

- (SECOND GRAPH): Moving on, we have another interactive graph that displays the differences between premature death rates in 5 counties across Virginia. Website users can observe the change in death rates over time in these counties, with Richmond City having some of the higher rates over a span of 20 years.

Joanne:

The PowerBI data visualization graphs represent the chronic illnesses and the second page covers the health coverage and categories in richmond. Both can be filtered by year and users can interact with it as needed.

Sanjana (THIRD GRAPH): Finally, we have a PCA graph that displays a combination of factors such as income inequality, child care cost burden, premature death rates, and unemployment, which all correlate with low socioeconomic status and vary across multiple areas in Virginia. The graph shows that counties in Northern Virginia have a higher socioeconomic status compared to counties in Southern Virginia, including Richmond. Since Richmond is on the lower end of the PCA, it shows that if they don't have financial stability, they won't be able to access effective and timely healthcare.

Joanne:

One of the key features we're most excited about is the **chatbot**. We understand that many people in underprivileged communities don't have easy access to healthcare professionals or educational resources. The chatbot serves as a **first step to self-education**—users can ask questions about chronic diseases and get reliable, accurate information to guide their next steps. It was personally trained with data from the resources.

While it won't diagnose, it will give users useful advice about prevention, early symptoms, and lifestyle changes that can help manage or even prevent chronic diseases.

Joanne:

The website was designed with ease of use in mind. We wanted to ensure that anyone, regardless of their digital literacy, can easily navigate and benefit from the platform. The information is presented in simple, easy-to-understand sections, and the chatbot is available 24/7 for any questions users may have.

Additionally, we want to reassure users that any data they input is completely secure and private. It doesn't require personal information, but we recommend providing as much detail as possible to receive the most accurate and helpful responses.

GO BACK TO PERSONAL IMPACT PAGE

Mahek:

We hope that by raising awareness, we can **empower Richmond residents** to take charge of their health. Our goal is not just to provide information, but to create a **community of people who are informed and proactive about their health**—ultimately reducing the burden of preventable diseases in our city.

We plan to work closely with local organizations and healthcare providers to ensure that this tool reaches the people who need it most.