

***CANCER INCIDENCE AMONG
RESIDENTS OF THE RIVERVIEW PLAT
NEIGHBORHOOD, MORAINE, OHIO
JANUARY 1996- JANUARY 2012***

Robert W. Indian

Chief, Comprehensive Cancer Control Program

Bureau of Healthy Ohio

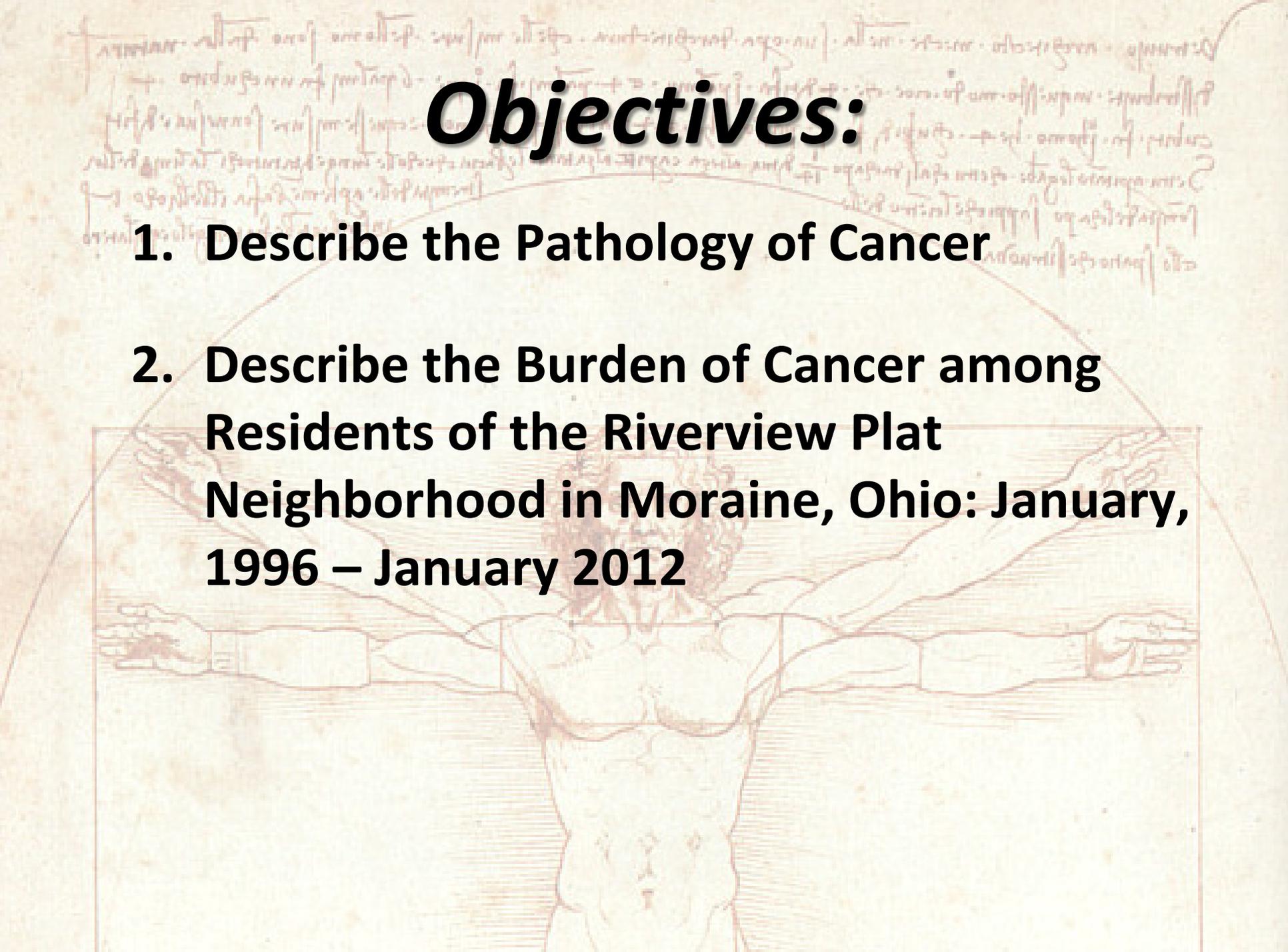
Ohio Department of Health

Presented at:

GM/RACER Trust-Moraine Site

Public Health Meeting

April 25, 2012



Objectives:

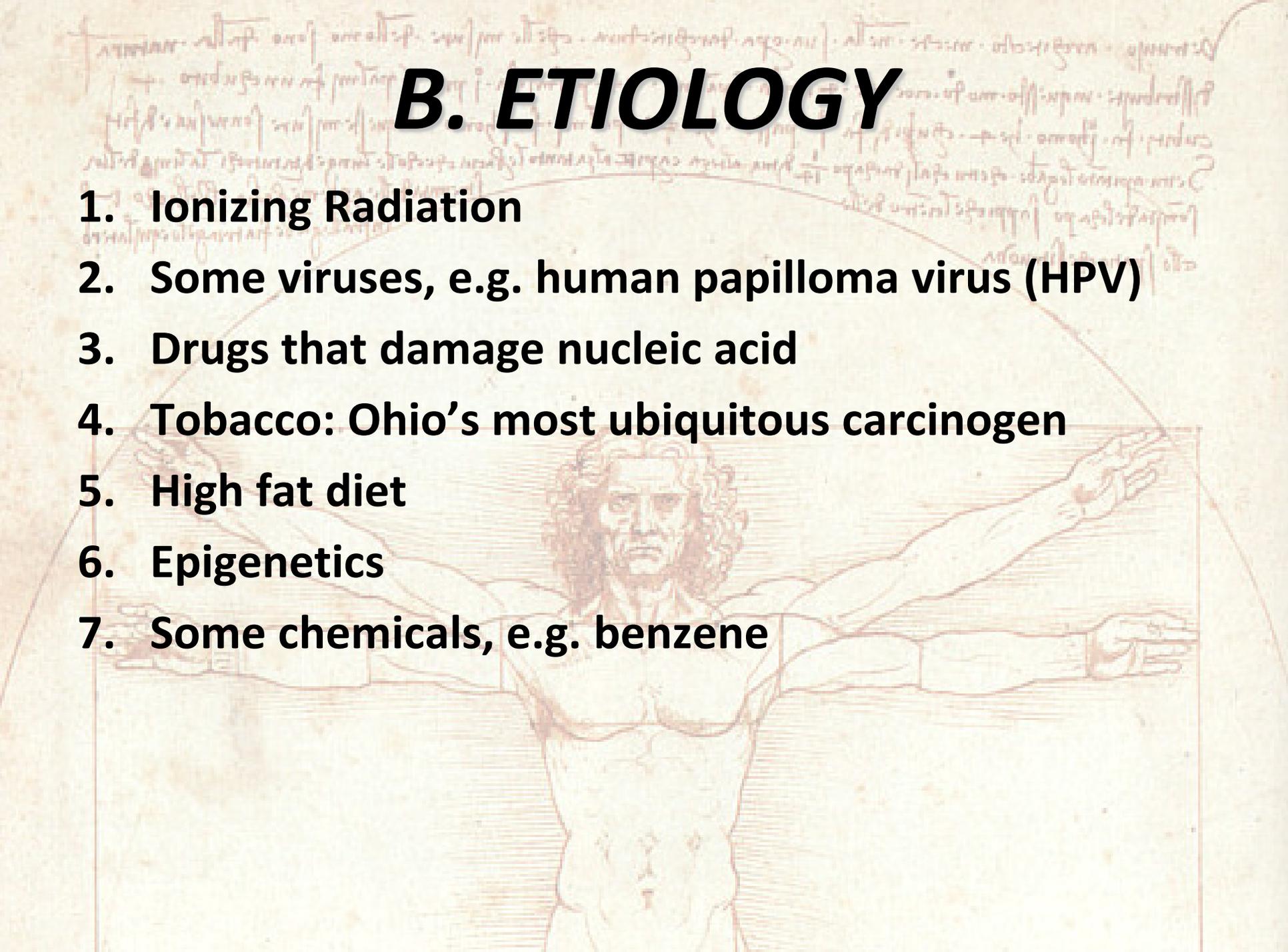
- 1. Describe the Pathology of Cancer**
- 2. Describe the Burden of Cancer among Residents of the Riverview Plat Neighborhood in Moraine, Ohio: January, 1996 – January 2012**

A. PATHOLOGY OF CANCER

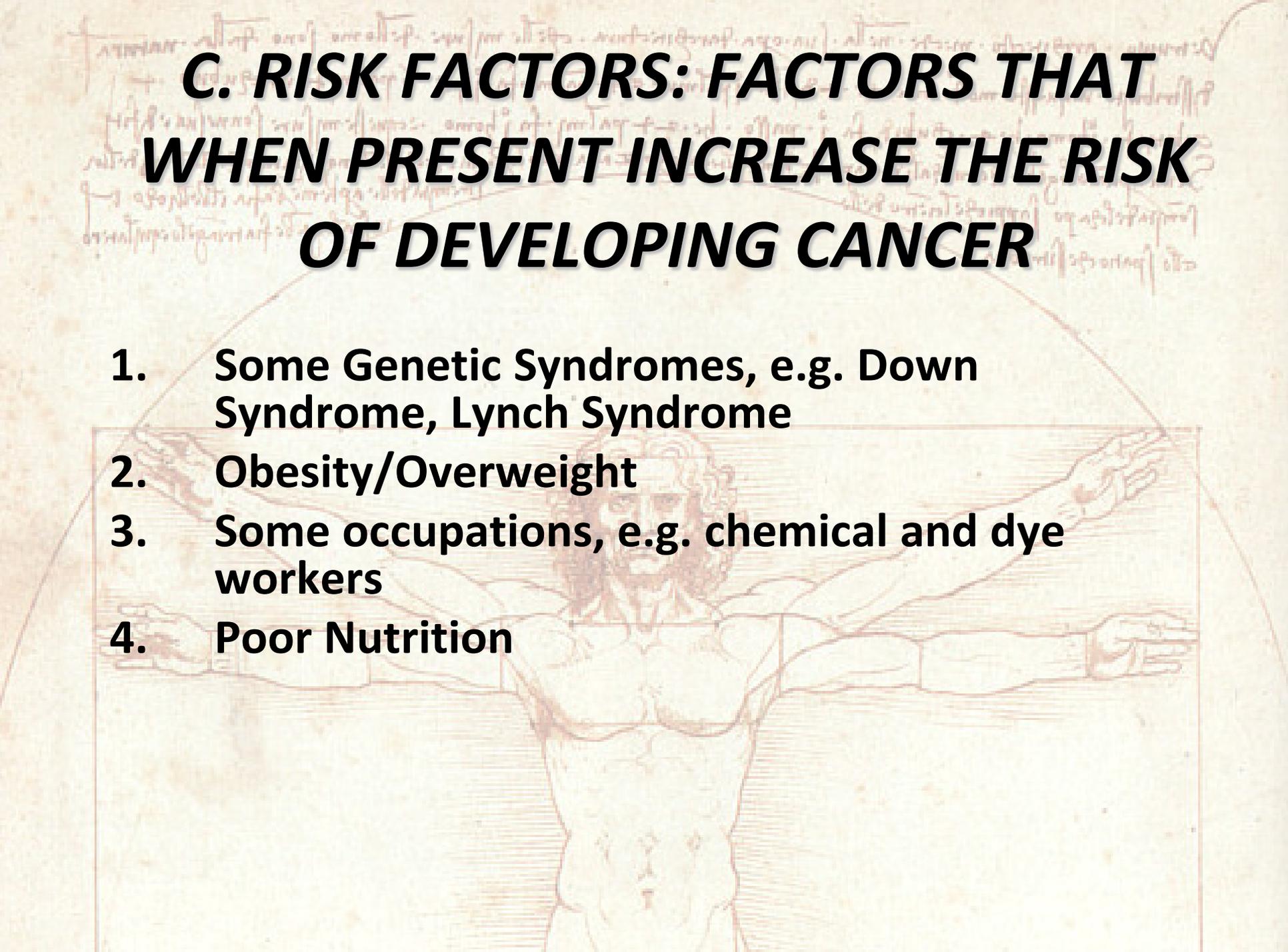
- 1. Malignant neoplasia marked by uncontrolled growth of cells, often with invasive healthy tissue locally or throughout the body.**
- 2. Not just one disease but at least 200 different diseases.**
- 3. Most common cancers in the U.S. and Ohio are: lung, breast, colon, prostate, and skin.**
- 4. Slow growing/fast growing.**
- 5. Complex natural history.**
- 6. Long latency period.**

B. ETIOLOGY

- 1. Ionizing Radiation**
- 2. Some viruses, e.g. human papilloma virus (HPV)**
- 3. Drugs that damage nucleic acid**
- 4. Tobacco: Ohio's most ubiquitous carcinogen**
- 5. High fat diet**
- 6. Epigenetics**
- 7. Some chemicals, e.g. benzene**

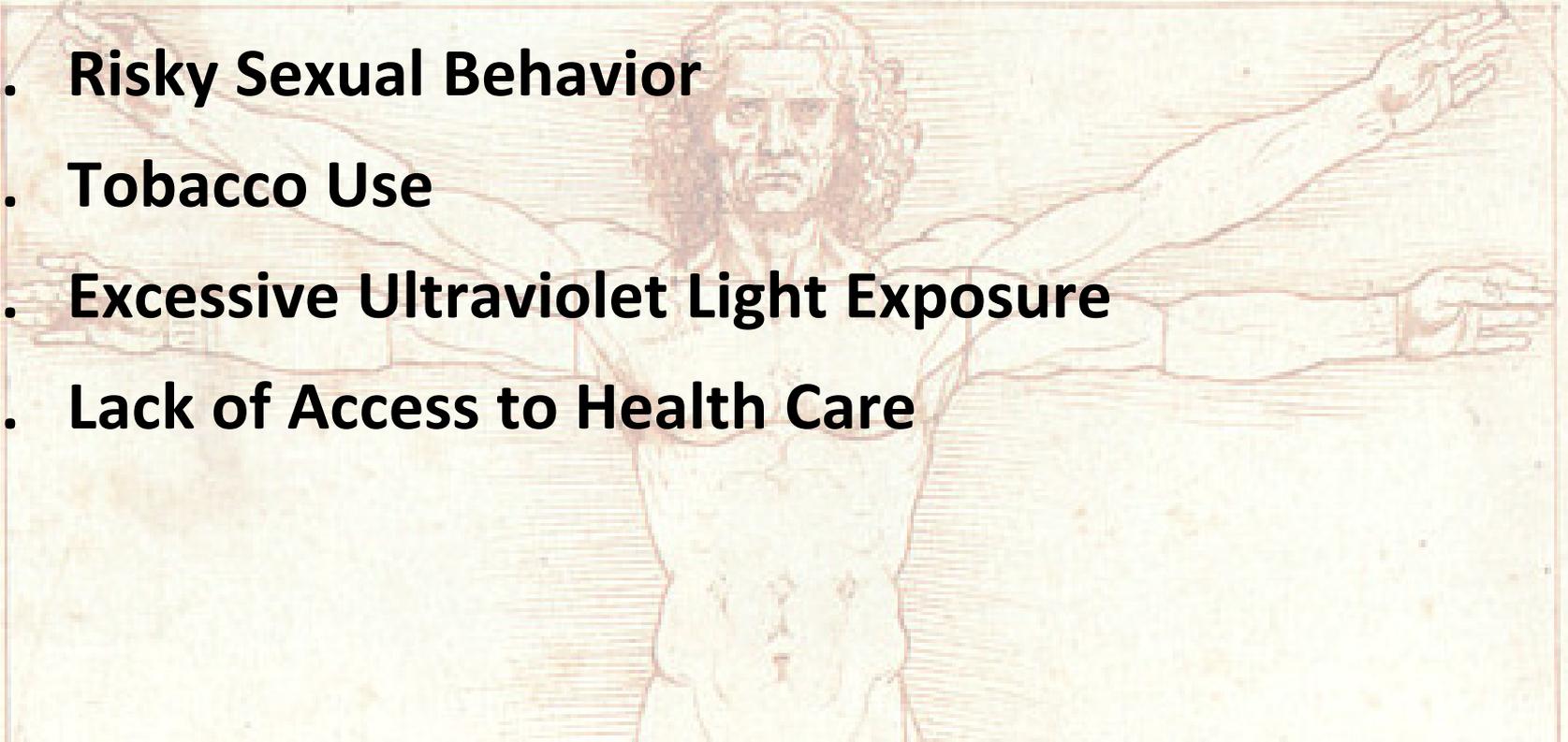


C. RISK FACTORS: FACTORS THAT WHEN PRESENT INCREASE THE RISK OF DEVELOPING CANCER

- 1. Some Genetic Syndromes, e.g. Down Syndrome, Lynch Syndrome**
 - 2. Obesity/Overweight**
 - 3. Some occupations, e.g. chemical and dye workers**
 - 4. Poor Nutrition**
- 
- The background of the slide features a faint, sepia-toned drawing of Leonardo da Vinci's Vitruvian Man. The figure is centered, with arms and legs extended, inscribed within a circle and a square. The drawing is semi-transparent, allowing the text to be clearly visible over it.

***C. RISK FACTORS: FACTORS THAT
WHEN PRESENT INCREASE THE RISK
OF DEVELOPING CANCER (cont'd)***

- 5. Lack of Physical Activity**
- 6. Risky Sexual Behavior**
- 7. Tobacco Use**
- 8. Excessive Ultraviolet Light Exposure**
- 9. Lack of Access to Health Care**



D. BURDEN OF CANCER AMONG RESIDENTS OF THE RIVERVIEW PLAT NEIGHBORHOOD IN MORAINE, OHIO: JANUARY, 1996 – JANUARY, 2012

1. Initiation of Review of Cancer Incidence:

- Public Health-Dayton and Montgomery County requested a review of cancer incidence among residents of Riverview Plat in Moraine

2. Potential Exposure to Trichloroethylene (TCE) and Perchloroethylene (PCE) via vapor infusion

- Completed pathway of exposure
- “Reasonably anticipated to be human carcinogens” as reported by the *National Toxicology Program Report on Carcinogens*, Twelfth Edition
- Cancer sites/types strongly associated with extensive exposure to these substances are liver, kidney, leukemia, bladder, non-Hodgkin’s lymphoma, and multiple myeloma

D. BURDEN OF CANCER AMONG RESIDENTS OF THE RIVERVIEW PLAT NEIGHBORHOOD IN MORAINE, OHIO: JANUARY, 1996 – JANUARY, 2012, (cont'd)

3. Methods

- **Study population: Residents of Riverview Plat neighborhood as defined by the following streets: Hoylake Ct., Lakehurst St., Telhurst Ct., Portage Rd., Old Sellars Rd., and Dryden Rd. (Census tract 301.00)**
- **Case Definition: Riverview Plat residents diagnosed with cancer during the time period January 1, 1996 through January 31, 2012.**

D. BURDEN OF CANCER AMONG RESIDENTS OF THE RIVERVIEW PLAT NEIGHBORHOOD IN MORaine, OHIO: JANUARY, 1996 – JANUARY, 2012, (cont'd)

4. Results

- **11 cancer cases diagnosed and reported among residents of the Riverview Plat neighborhood from January 1, 1996 – January 31, 2012.**
- **These 11 cases occurred among residents living on Hoylake Court (1 case); Lakehurst Street (4 cases); Telhurst Court (5 cases); and Dryden Road (1 case).**
- **Six different sites/types of cancer were diagnosed: three cases of colorectal cancer; four cases of prostate cancer; and one case each of lung & bronchus, oral cavity & pharynx, uterine, and ovarian cancer.**

D. BURDEN OF CANCER AMONG RESIDENTS OF THE RIVERVIEW PLAT NEIGHBORHOOD IN MORAINE, OHIO: JANUARY, 1996 – JANUARY, 2012, (cont'd)

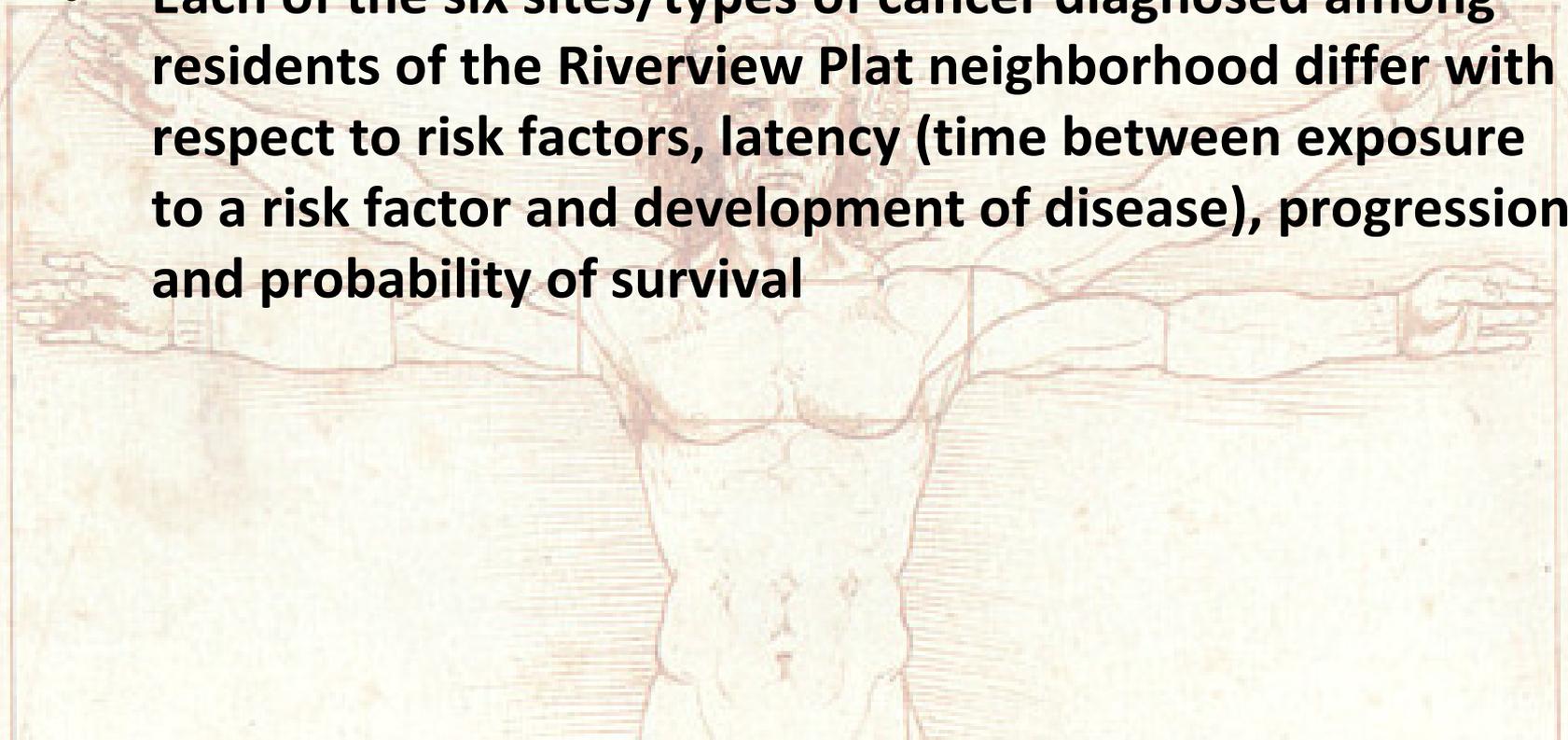
4. Results (cont'd)

- **Eight of the 11 cases were diagnosed among residents 65 years and older, and three cases were between 30 and 64 years of age. There were no cases less than 30 years of age.**
- **There was increasing or decreasing trend on the number of cases by diagnosis year.**
- **The cancer sites/types most strongly associated with TCE and PCE – liver cancer, kidney cancer, and leukemia – were not reported among residents of the Riverview Plan neighborhood.**

D. BURDEN OF CANCER AMONG RESIDENTS OF THE RIVERVIEW PLAT NEIGHBORHOOD IN MORAINE, OHIO: JANUARY, 1996 – JANUARY, 2012, (cont'd)

5. Discussion:

- Each of the six sites/types of cancer diagnosed among residents of the Riverview Plat neighborhood differ with respect to risk factors, latency (time between exposure to a risk factor and development of disease), progression, and probability of survival



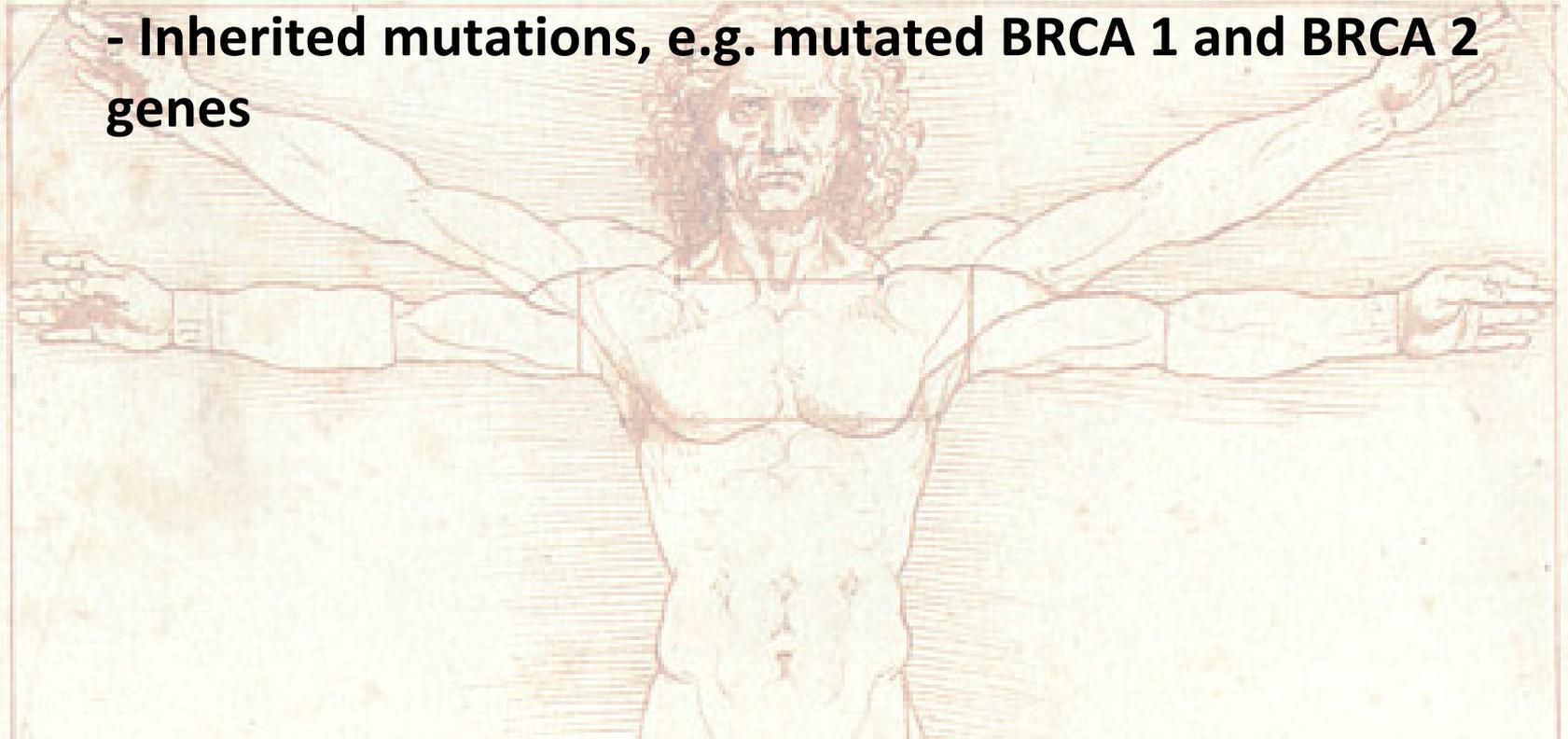
5. Discussion (cont'd)

- **Risk Factors for Colorectal Cancer:**

- Increasing age;
- Family history of colorectal cancer;
- Inherited genetic syndromes such as familial adenomatous polyposis (FAP) or hereditary nonpolyposis colorectal cancer (HNPCC);
- Disease of the colon such as intestinal polyps or chronic inflammatory bowel disease;
- Poor nutrition;
- Lack of physical activity
- Obesity;
- Heavy alcohol consumption;
- Tobacco smoking

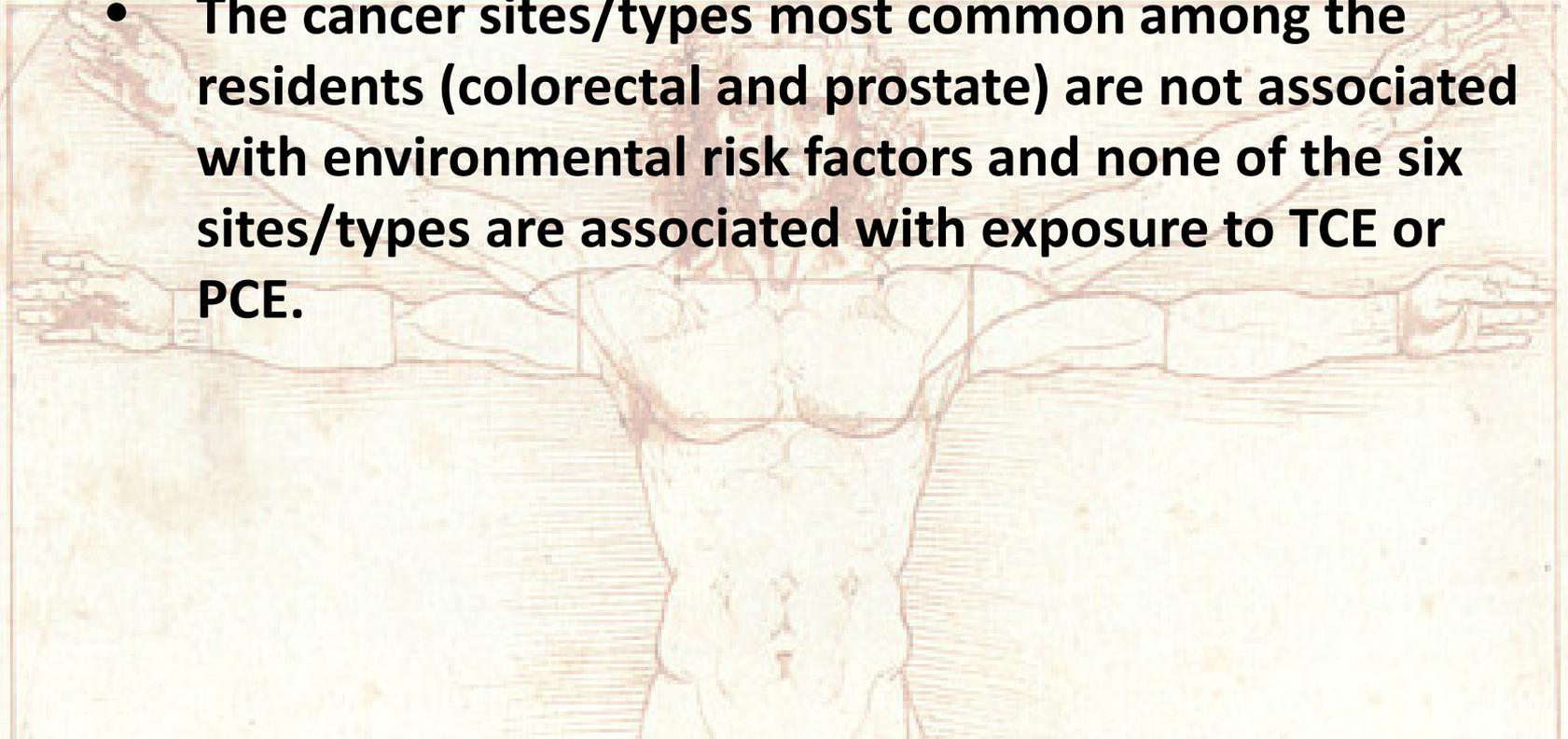
• Risk Factors of Prostate Cancer:

- Increasing age;
- Family history of prostate cancer
- High consumption of red meat and/or high-fat dairy products;
- Inherited mutations, e.g. mutated BRCA 1 and BRCA 2 genes

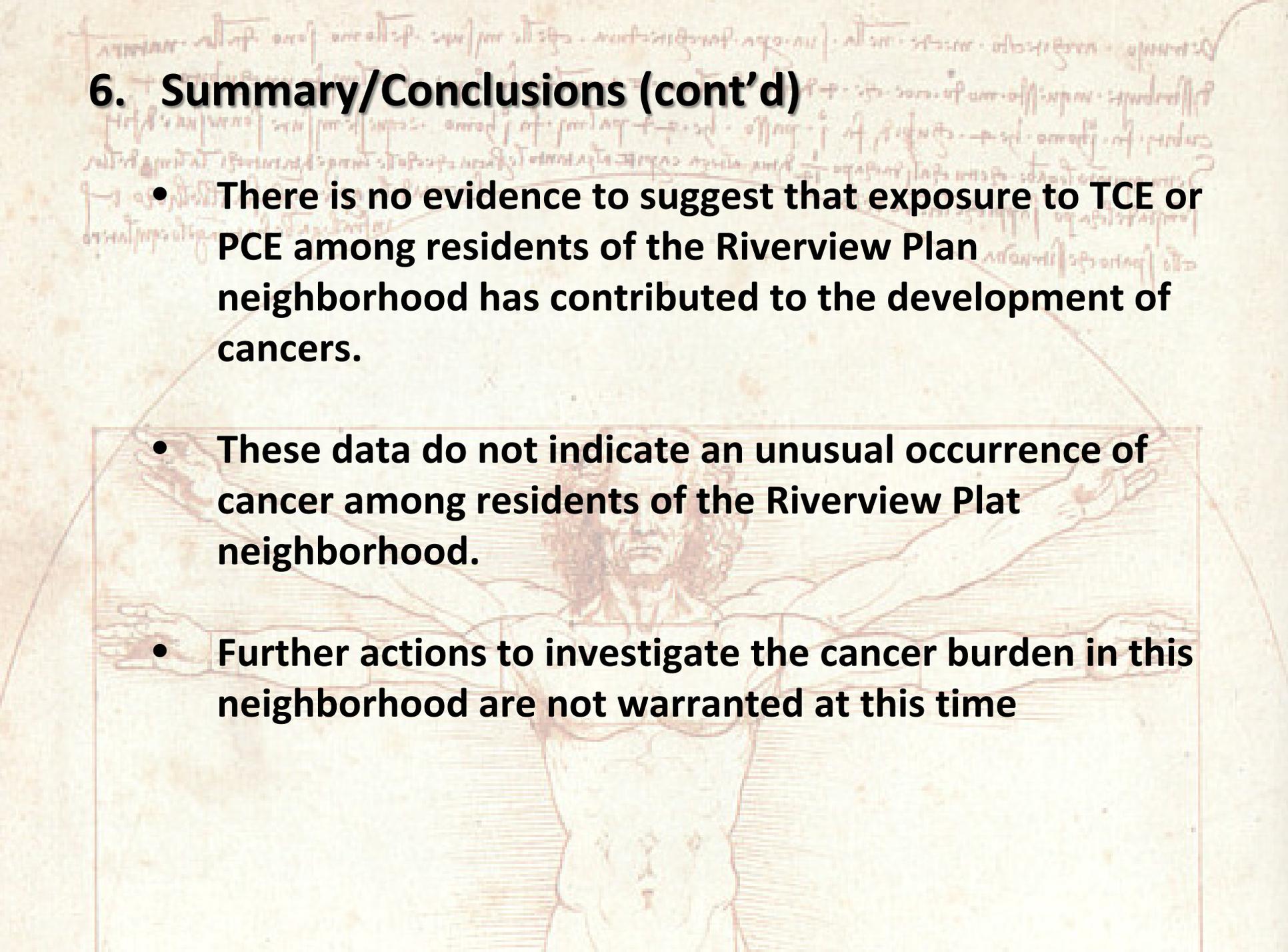


6. Summary/Conclusions

- **The six cancer sites/types diagnosed and reported among residents of the Riverview Plat neighborhood vary with respect to risk factors, primarily occurred among older adults, and did not increase or decrease over time.**
- **The cancer sites/types most common among the residents (colorectal and prostate) are not associated with environmental risk factors and none of the six sites/types are associated with exposure to TCE or PCE.**

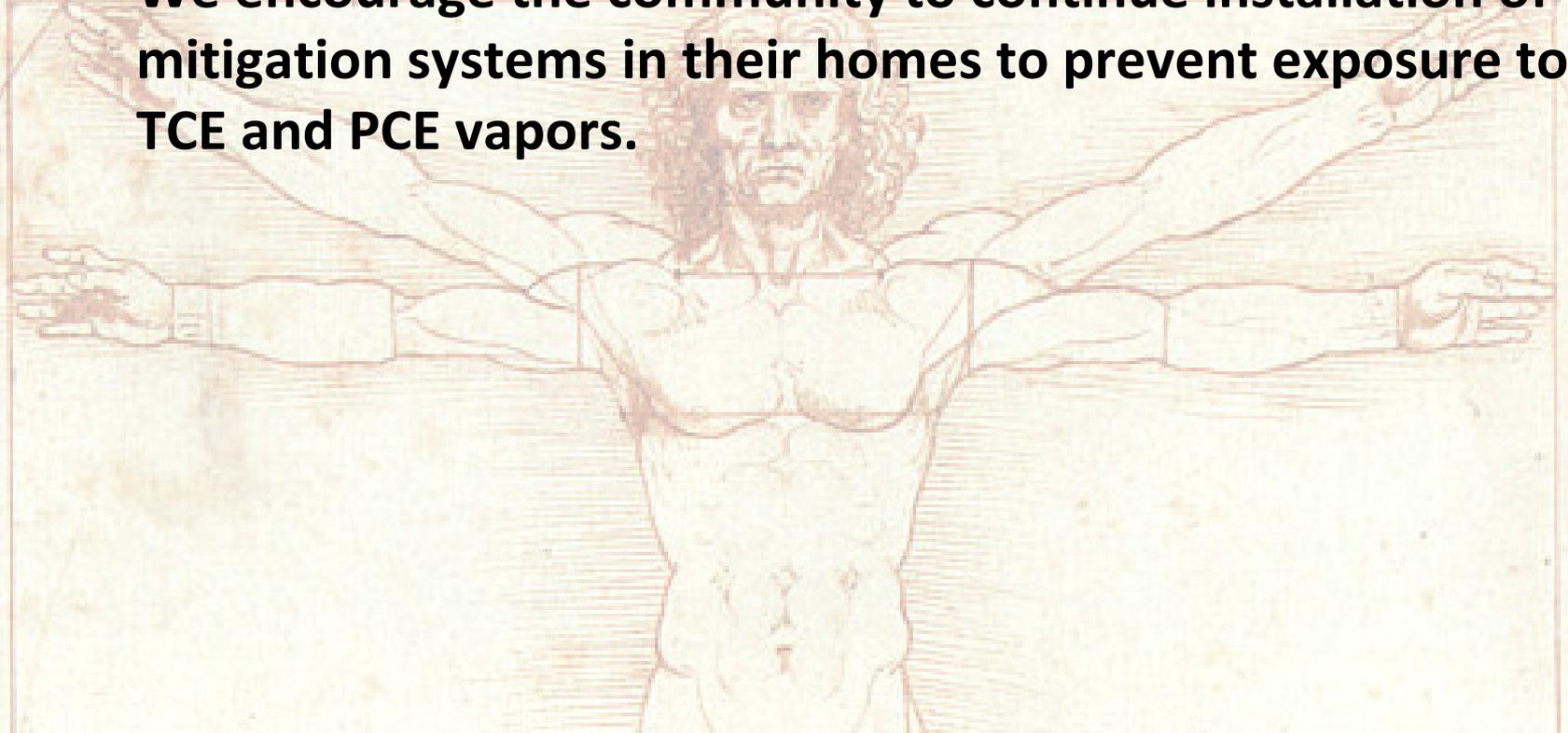


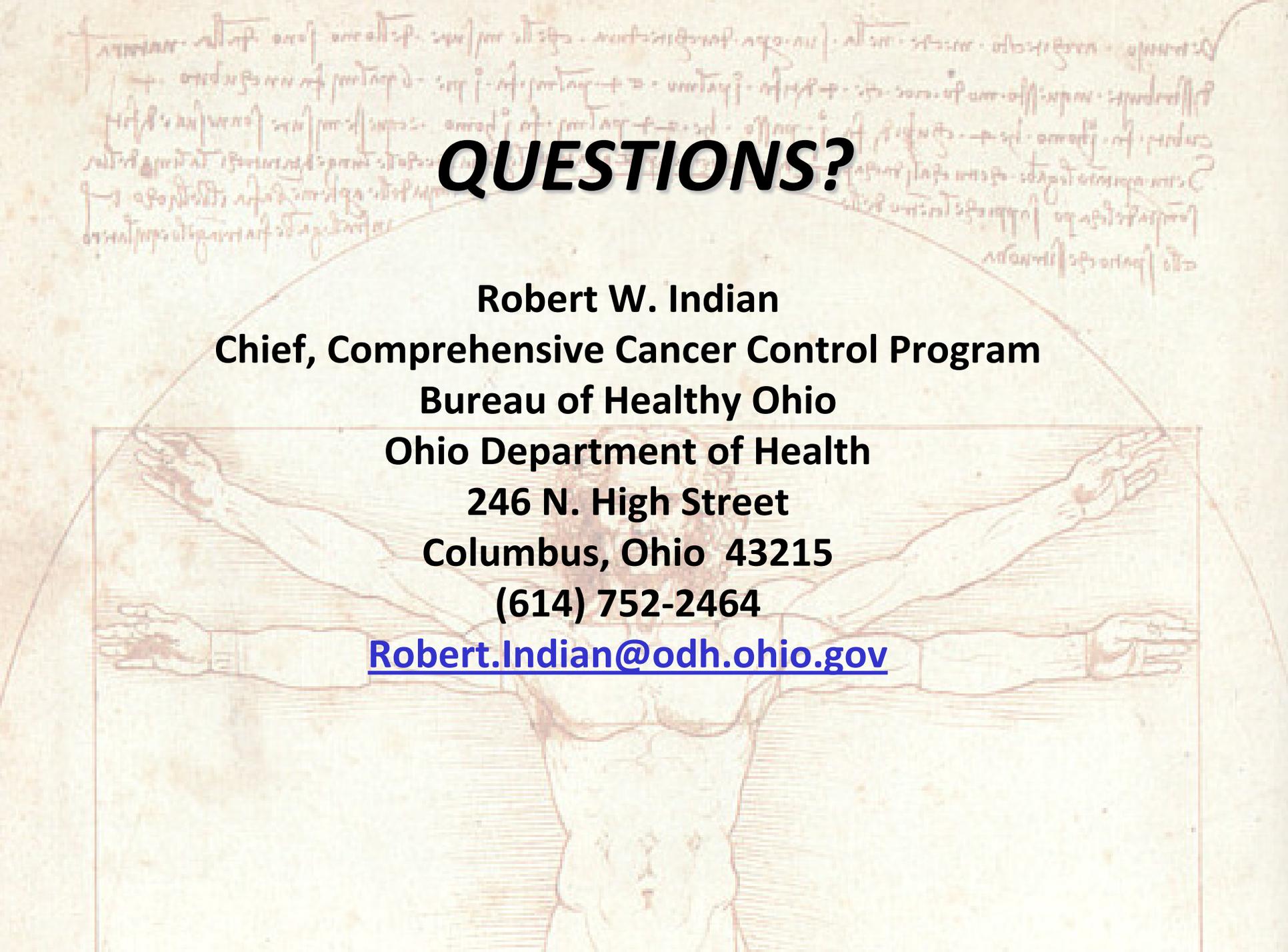
6. Summary/Conclusions (cont'd)

- **There is no evidence to suggest that exposure to TCE or PCE among residents of the Riverview Plan neighborhood has contributed to the development of cancers.**
 - **These data do not indicate an unusual occurrence of cancer among residents of the Riverview Plat neighborhood.**
 - **Further actions to investigate the cancer burden in this neighborhood are not warranted at this time**
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7. Recommendations:

- **The Ohio Department of Health supports the current U.S. EPA investigative efforts in the Riverview Plat neighborhood.**
- **We encourage the community to continue installation of mitigation systems in their homes to prevent exposure to TCE and PCE vapors.**





QUESTIONS?

Robert W. Indian
Chief, Comprehensive Cancer Control Program

Bureau of Healthy Ohio

Ohio Department of Health

246 N. High Street

Columbus, Ohio 43215

(614) 752-2464

Robert.Indian@odh.ohio.gov