

# The Increasing Trends of the Most Common Cancers in Saudi Arabia

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## Background

Saudi Arabia (SA) has a population of around 34 million, and carries one of the highest rates of consanguinity worldwide, and many modern changes in lifestyle and diet. The Saudi Cancer Registry (SCR) was established in 1994 to capture the basic epidemiology of cancers in SA.

Cancer incidence has changed along with possible etiological factors, with colorectal cancer, non-Hodgkin lymphoma, and leukemia being the most common malignancies in males in SA (differing from the epidemiological profile in the west, particularly the United States). There is a literature gap in identifying the current trends and epidemiology of cancers in SA.

## Methods

Electronic Search using SCR and Surveillance, Epidemiology and End Results (SEER) Databases of Colorectal, Breast, Leukemia, Hodgkin's Lymphoma, and Thyroid Cancer

Data on Prevalence and incidence frequency were collected

Age standardized, age specific incidence rates calculated, otherwise frequency and incidence rates were assessed regardless of age group and focused on gender

Data from SCR was compared with data from the SEER in terms of prevalence and incident frequency

## Results

- Colorectal cancer is among the top three most common cancers among Saudi men and women
- Breast Cancer among women had increased from 1/5 to 1/3 of total cancer cases in females (19.9% to 30.4%)
- Thyroid Cancer Cases increase every year, with a 4% increase in female cancer cases; stable trend for males
- Leukemia showed a slight decrease in frequency, still has high crude relative frequency among males and females (9.3% and 4.8% respectively).
- Hodgkin's Lymphoma showed a 2% increase in male cancer cases, and 3.3% in females

Figure Key:  
— Males  
— Females

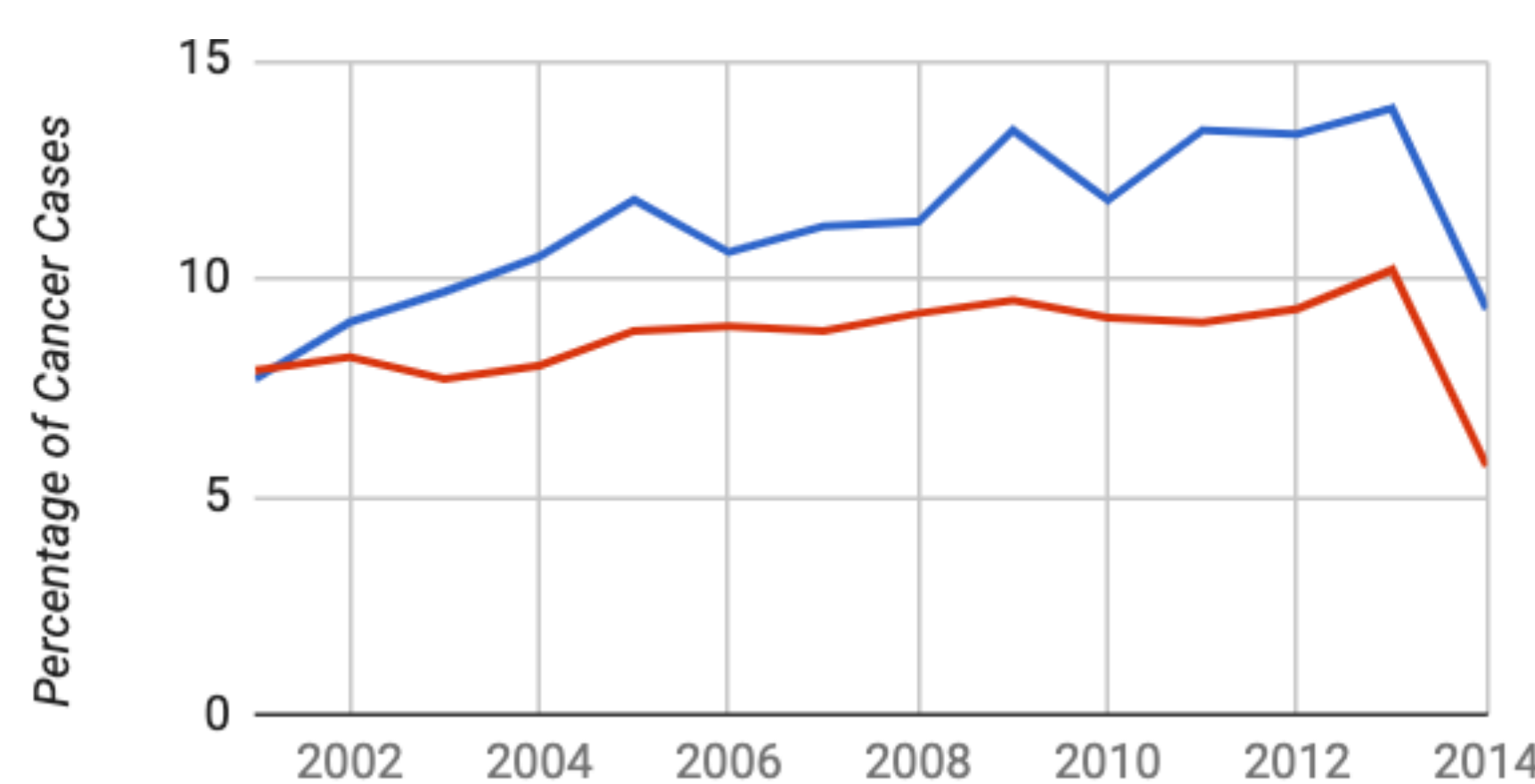


Figure 1: Trends of Colorectal Cancer cases by Gender from years 2001 to 2014

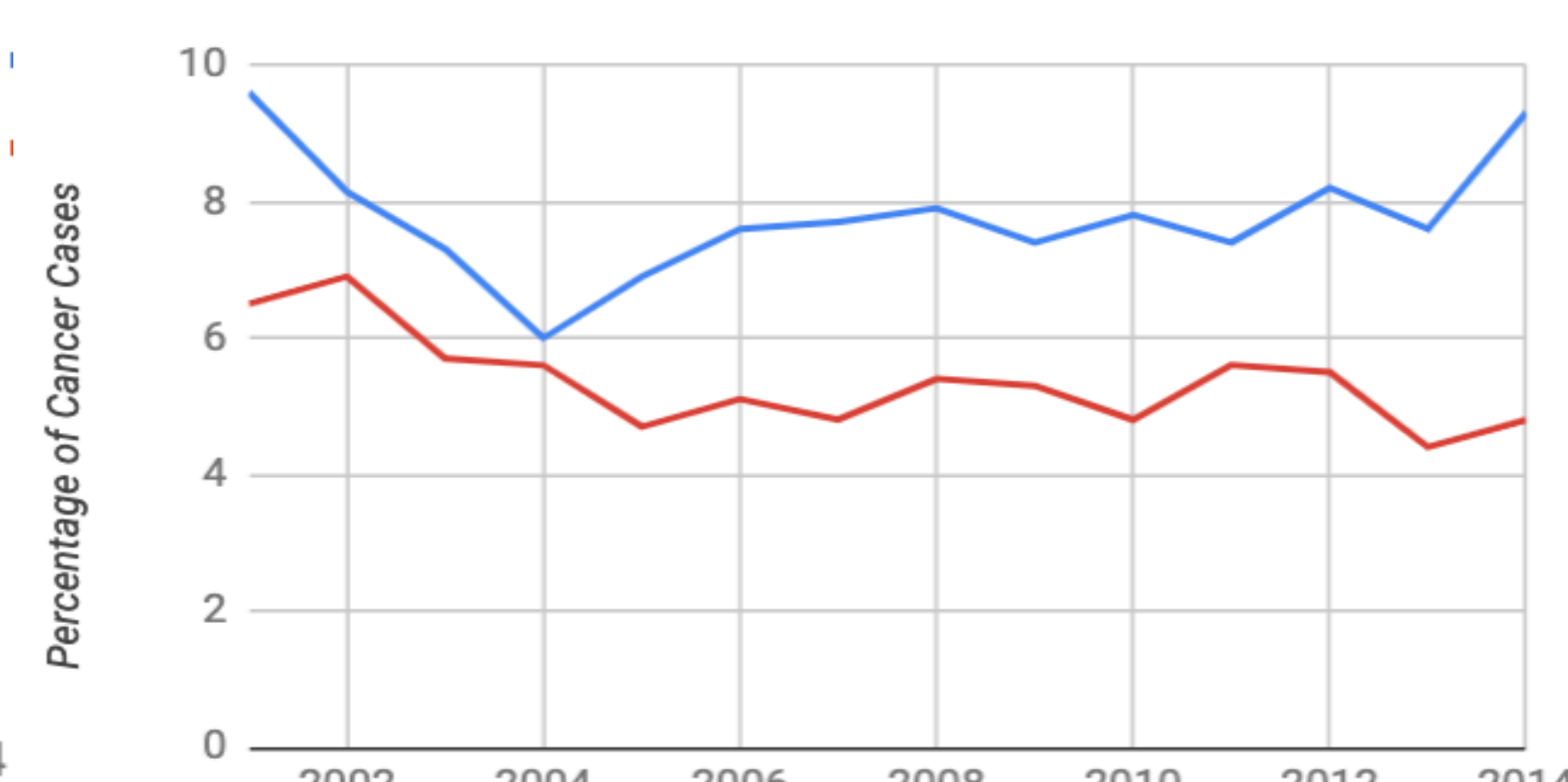


Figure 2: Trends of Leukemia Cases by Gender from years 2001 to 2014

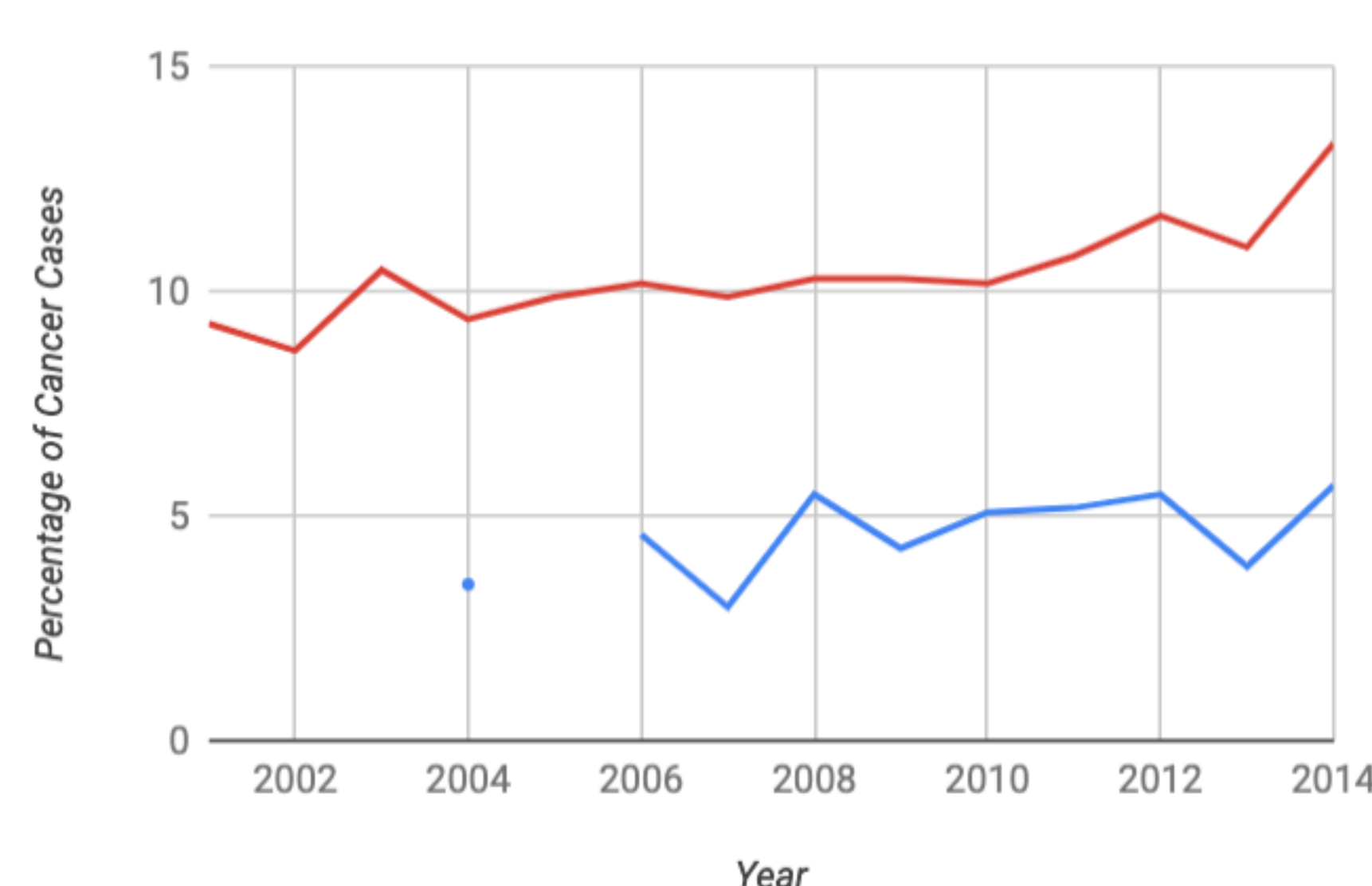


Figure 3: Trends of Thyroid Cancer cases by Gender from years 2001 to 2014

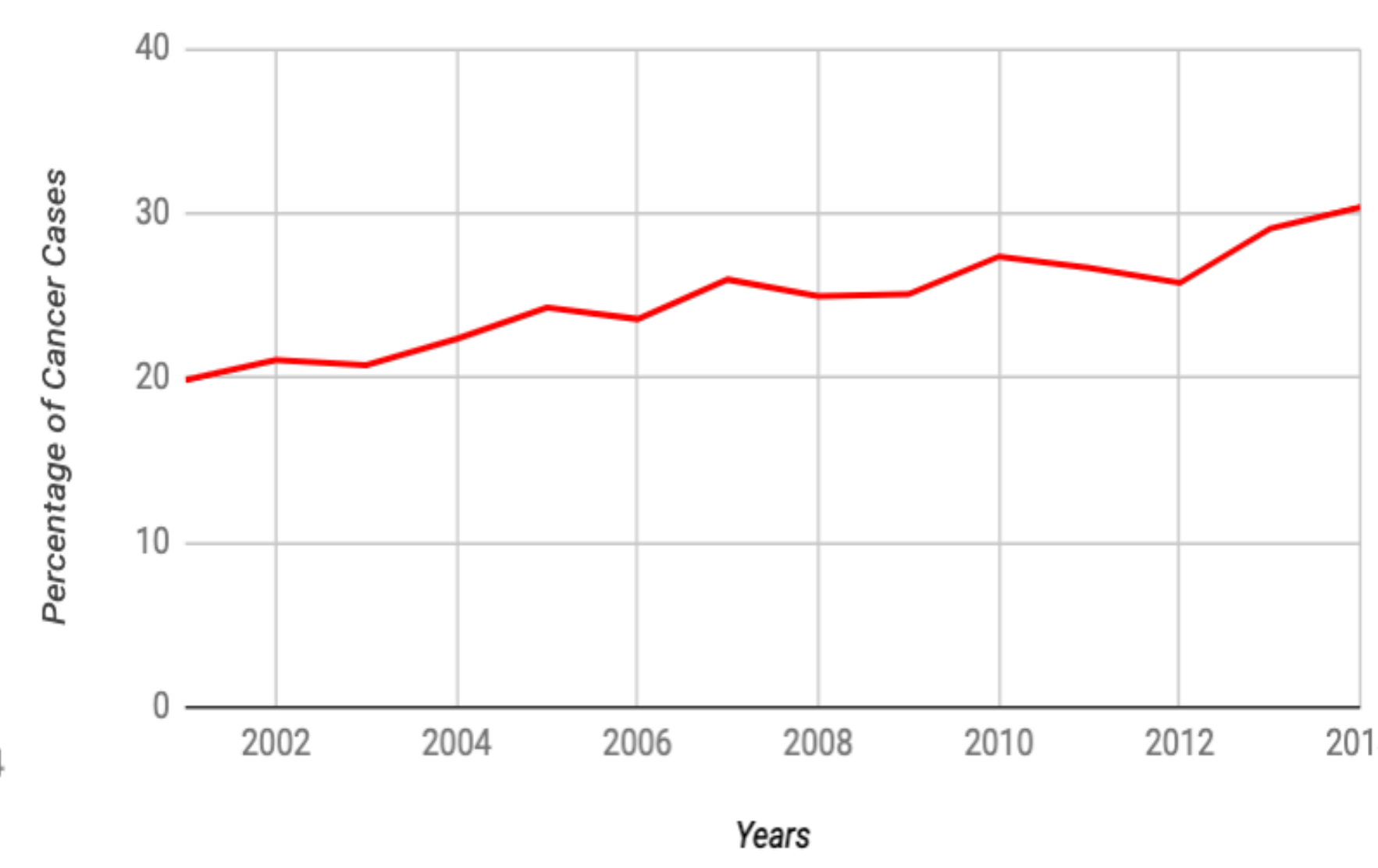


Figure 4: Trends of Breast Cancer cases among Females from years 2001 to 2014

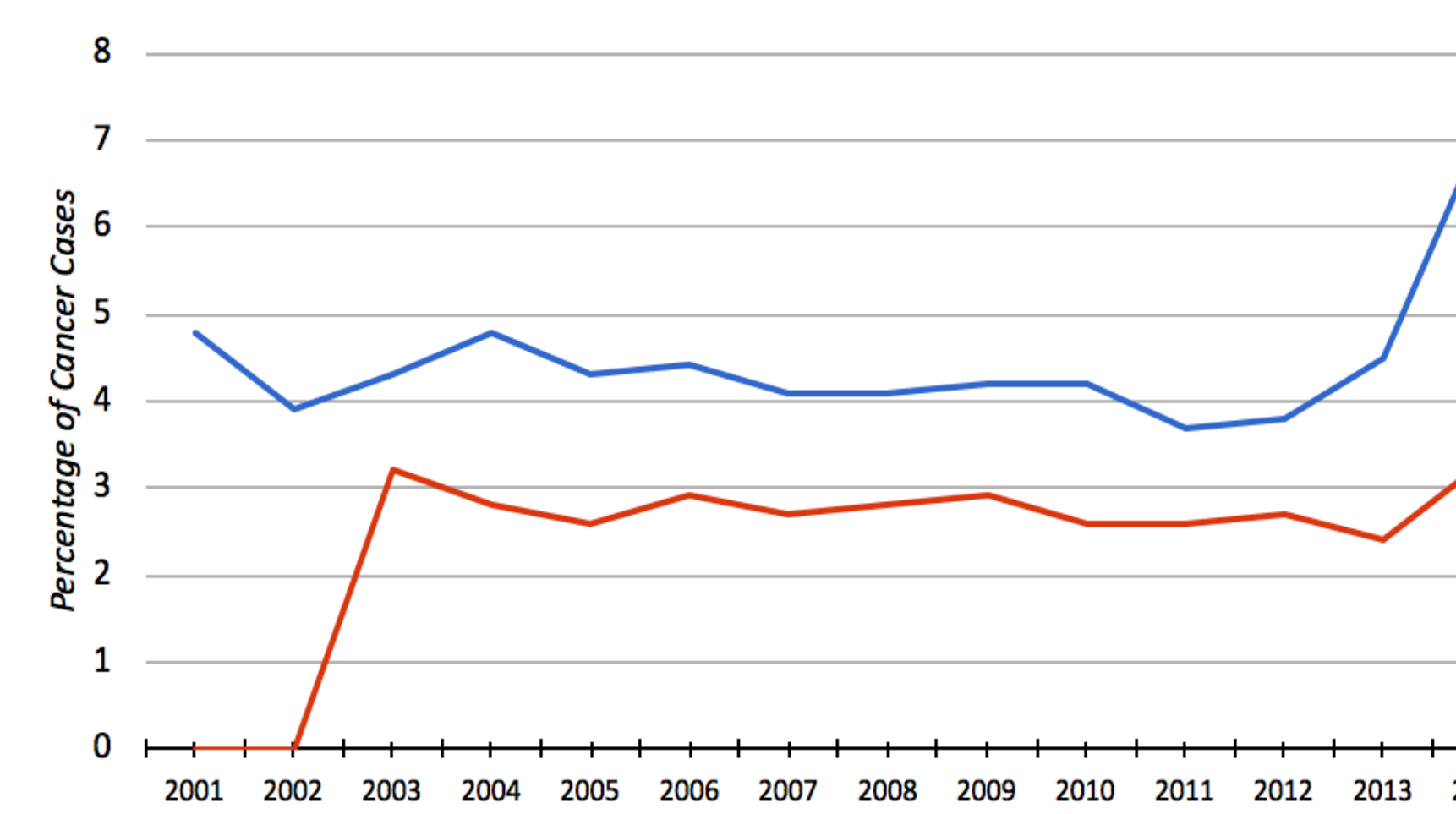


Figure 5: Trends of Hodgkin's Lymphoma cases by Gender from years 2001 to 2014

Cancer type	SA	USA
Breast cancer	4.8	-0.01
Thyroid cancer	0.9	0.0055
Colorectal cancer	3.8	-0.0118
Hodgkins lymphoma	-0.4	0
Leukemia	-1.4	0.0003

Table 2: Percentage Increase in Number of Cancer Cases per 100,000 from 2000 to 2010 in SA and the USA

SITE	SCR 2014	SEER database 2014 analytics for the USA
Breast	6.0	125.8
Thyroid	3.2	13.7
Leukemia	2.3	13.9
Colorectal	4.4	39.3
Hodgkin lymphoma	1.4	2.6

Table 1: Comparative Data – SCR vs. SEER Database Analytics (Total Cancer Cases per 100,000)

## Discussion

Cancer incidence in SA has increased significantly over the past decade, with possible etiological factors:

- Increased rate of obesity
- Dietary habit changes and lack of physical activity
  - Prevalence of Type 2 diabetes
- Having lesser children; delayed age of marriage
- Lack of screening knowledge and ionizing radiation
  - Consanguinity

## Conclusion

Ascending trends of these common cancers calls for the necessity of medical programs to be set in place in order to encourage earlier detection and screening of malignancies while still localized, by creating obligatory physical activity programs in schools. Risk factors such as ionizing radiation exposure in light of technological advances should be addressed and regulated. Consanguineous populations must continue to seek genetic counseling to prevent certain malignancies becoming frequent.

## References

