

Abstract #89

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Background

- Cancers in adolescents and young adults (AYA) represent a unique spectrum of malignancies distinct from those found in either younger children or older adults
- Epidemiologic studies of cancer incidence and trends often group AYAs together with younger or older populations, thus obscuring patterns specific to this population
- In this study, we examine trends in AYA cancer incidence across 41 countries

Methods

- AYA cancers were defined as those that occur between the ages of 15 and 39 years
- Annual cancer incidence and population at risk data for the period of 1998-2012 were obtained for 86 registries from the IARC's *CI5plus* database
- Data was available for all AYA cancers combined except non-melanoma skin cancer (NMSC) and 28 cancer sites/types
- Truncated age-standardized incidence rates were calculated using the World Standard Population
- Average annual percentage change (Average APC) was calculated by fitting the natural logarithm of the incidence with diagnosis year using generalized linear regression models

Conclusions

- Decreasing trends in lung and cervical cancer highlights the success of past interventions on smoking and certain infections
- Increases in thyroid cancer likely relate to overdiagnosis
- Increases in the incidence of specific cancers may be partly due to changing profiles of risk factors, such as obesity
- Efforts targeting obesity prevention, widespread access to HPV vaccination, smoking cessation, and appropriate prevention of sun exposure are likely to further decrease AYA cancer incidence rates

# Worldwide trends in cancer incidence among adolescents and young adults (15-39 years-olds) between 1998-2012

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Results

- From 1998-2012, we observed **1.8 million new cancer cases** and **3 billion person-years** among 15-39 year-olds
- The ASR for all cancer cases (except NMSC) ranged from **26.7 per 100,000 in India** to **66.4 per 100,000 in Italy**
- Global variations in the AYA cancer burden were noted:

1. The ASR for **cervical cancer** ranged from 0.9 per 100,000 in Bahrain to 17.1 per 100,000 in Uganda
2. The ASR for **testicular cancer** ranged from 0.3 per 100,000 in Uganda to 21.2 per 100,000 in Norway
3. The ASR for **thyroid cancer** was highest in the Republic of Korea (ASR=20.0), where the ASR was 40-times higher than that observed in Uganda (ASR=0.5)

- Overall, the incidence of AYA cancer significantly **increased in 26 countries**, significantly **decreased in 2 countries**, and **remained stable in 13 countries**

