



# Cancer Incidence and Mortality on Guam

A (brief) review of data

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# Cancer on Guam

- Incidence by gender, site and ethnicity
- Mortality by site and ethnicity
- Comparison to US and other Pacific Islander cancer rates
- Implications for further research, outreach, prevention and screening



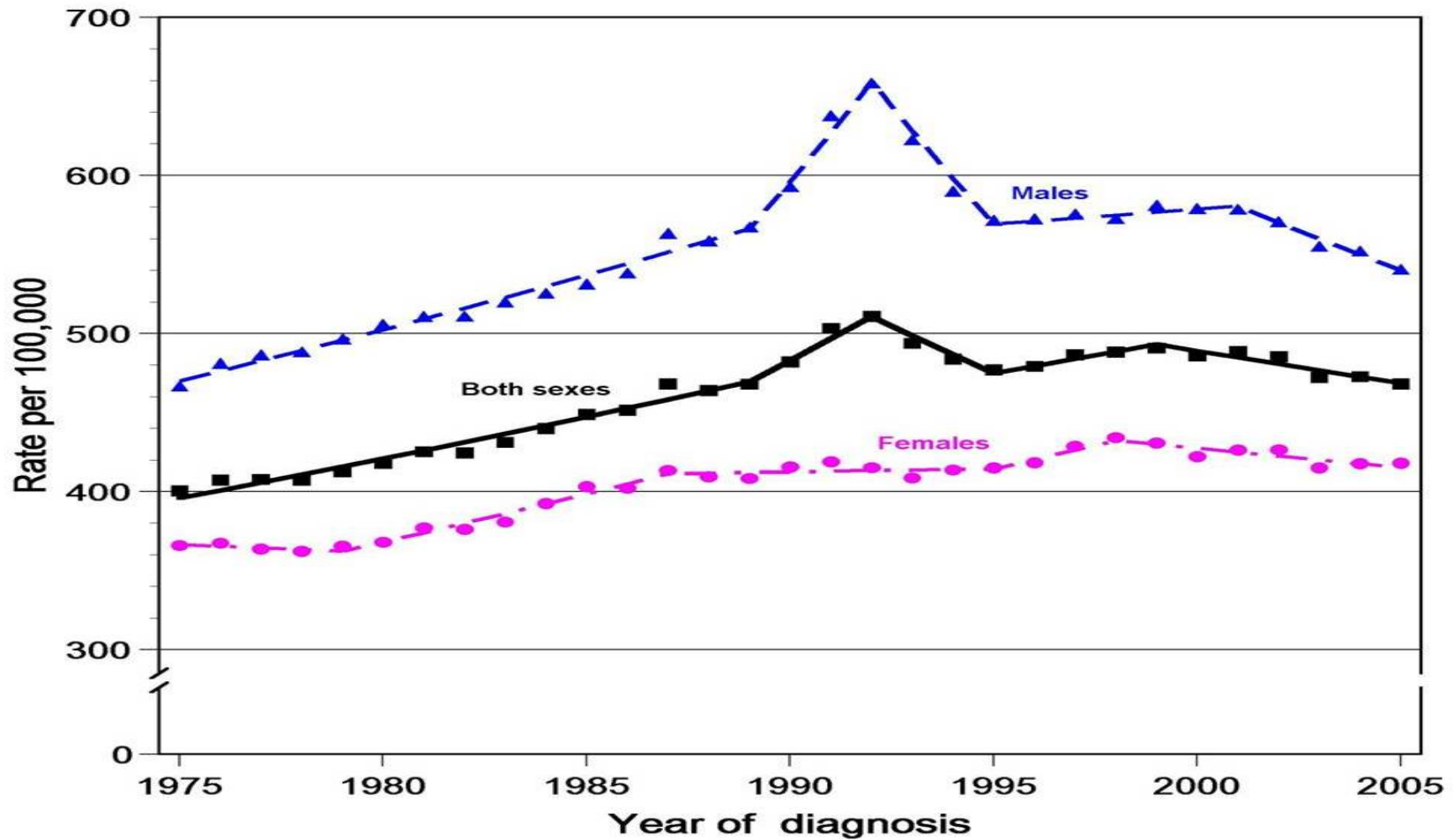
# Context

- Males have a 1 in 2 chance of developing cancer over a lifetime.
- Females have a 1 in 3 chance of developing cancer over a lifetime

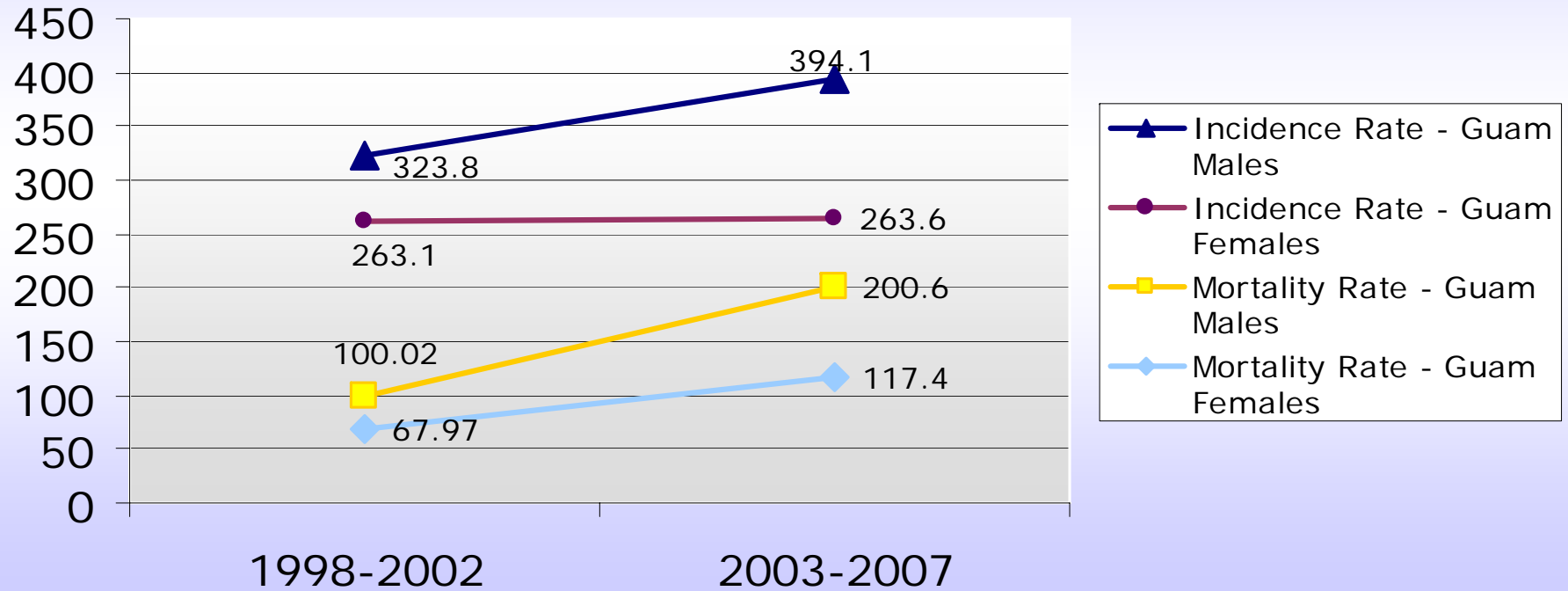
American Cancer Society, Cancer Facts & Figures 2009, p. 14.  
[www.cancer.org](http://www.cancer.org)



# Incidence of New Cases of all Cancers in the U.S.A. 1975-2005



## Cancer Incidence Rates by sex, Guam: 1998-2002 and 2003-2007



Source: University of Guam, Cancer Research Center of Guam, Guam Cancer Registry, 2009. Cancer and Morality of Guam Residents by Site, Gender, Ethnicity, and Age, Guam: 2003-2007, Guam.

Guam, March 28, 2008. Rates are age-adjusted to 2000 U.S. Standard Population.

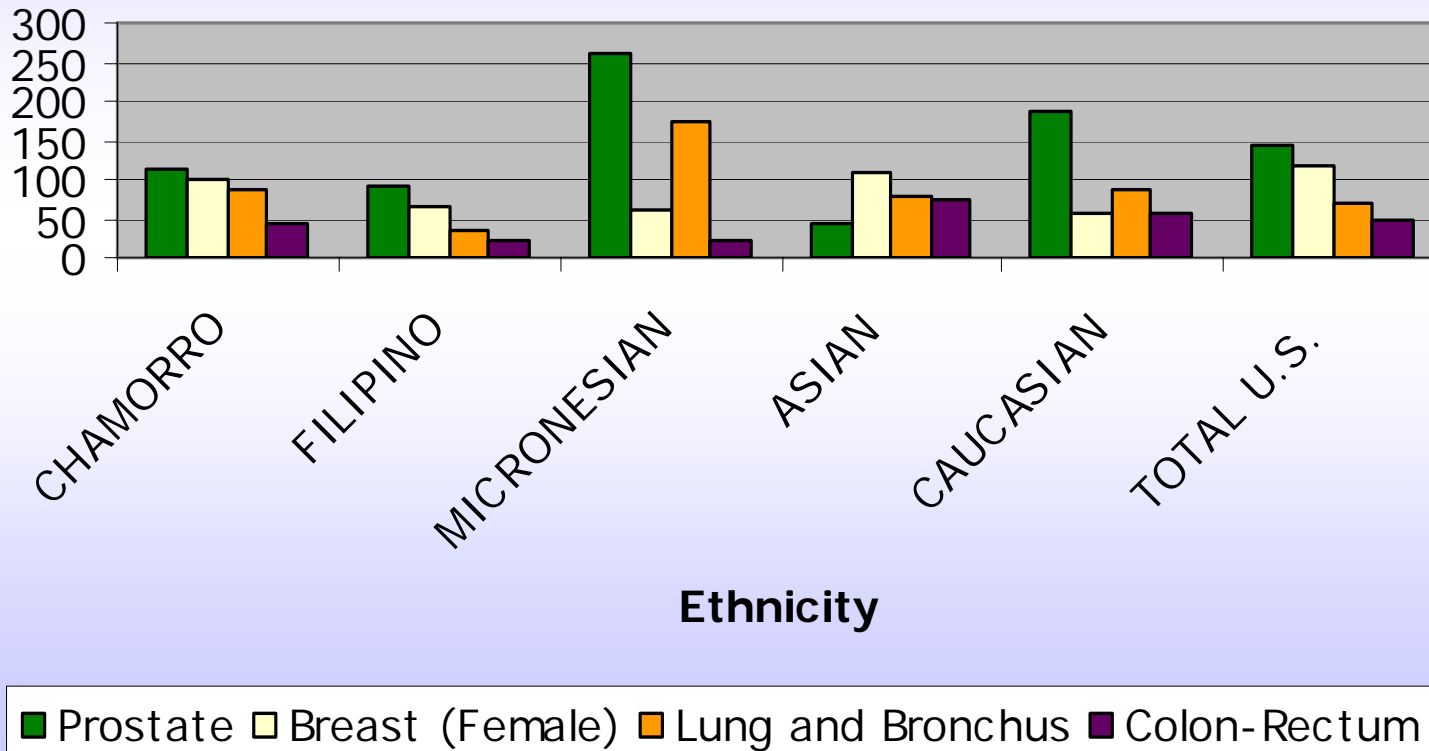


# Summary

- While the incidence of cancer rose by **22%** in males on Guam during this period, the incidence in males in the US continued to decline by nearly 2%.
- Male cancer mortality rates on Guam doubled (up **100%**) while US mortality rates declined by 2%.
- Female cancer mortality rates jumped **73%** while US rates remained steady.



## Comparison of U.S. and Guam Mean Annual Age-Adjusted Top Four Cancer Incidence Rates by Ethnicity: 2003-2007

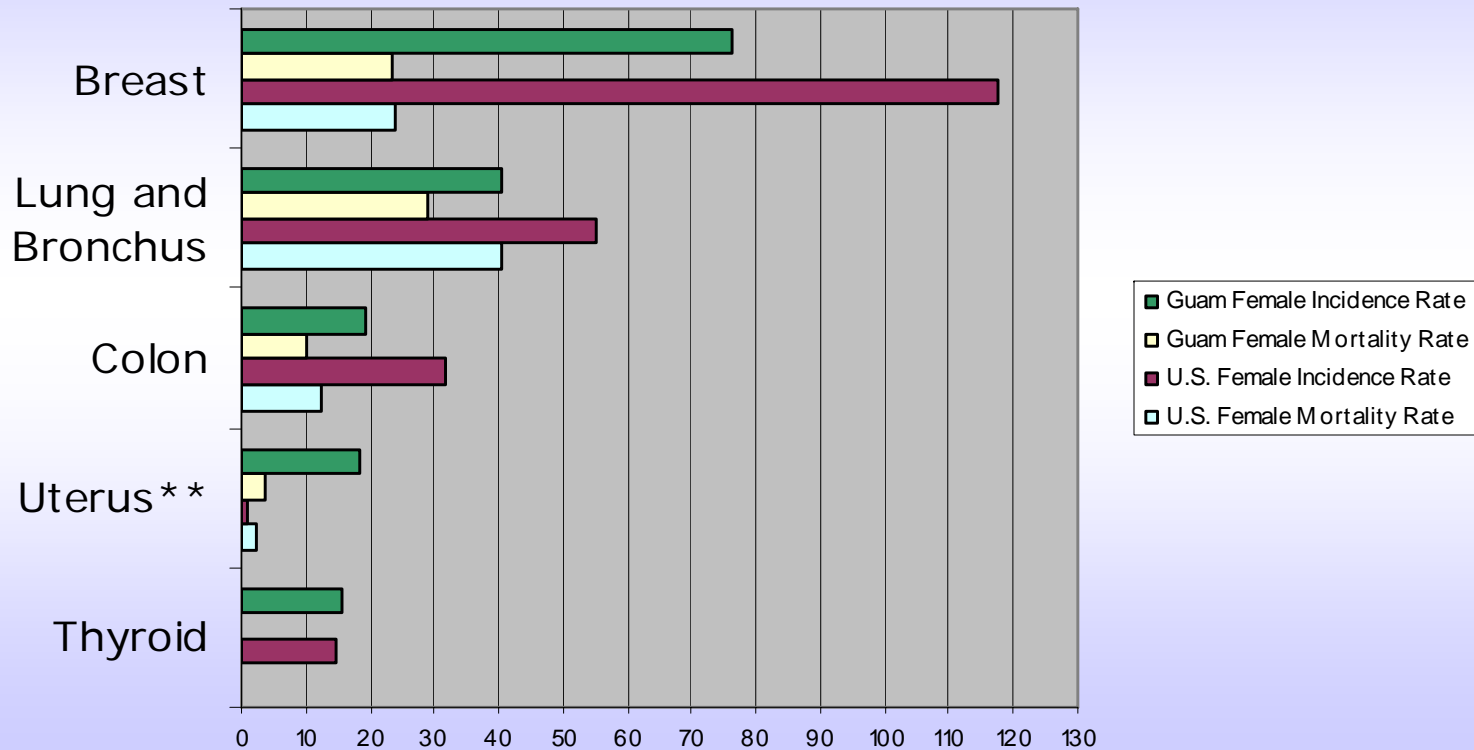


1. Cases per 100,000 population, age-adjusted to the U.S. 2000 standard population. Data base current as of 3/24/09.

2. Mid-Period (2000 and 2005) cancer incidence rates. Available at <http://apps.nccd.cdc.gov/uscs/>



## Comparison of Guam and U.S. Female Cancer Incidence and Mortality Rates: 2003-2007



\*\*For U.S. stats: Uterus, NOS and Liver and Intrahepatic Bile Duct

\*Rates are suppressed if fewer than 5 cases were reported in a specific category

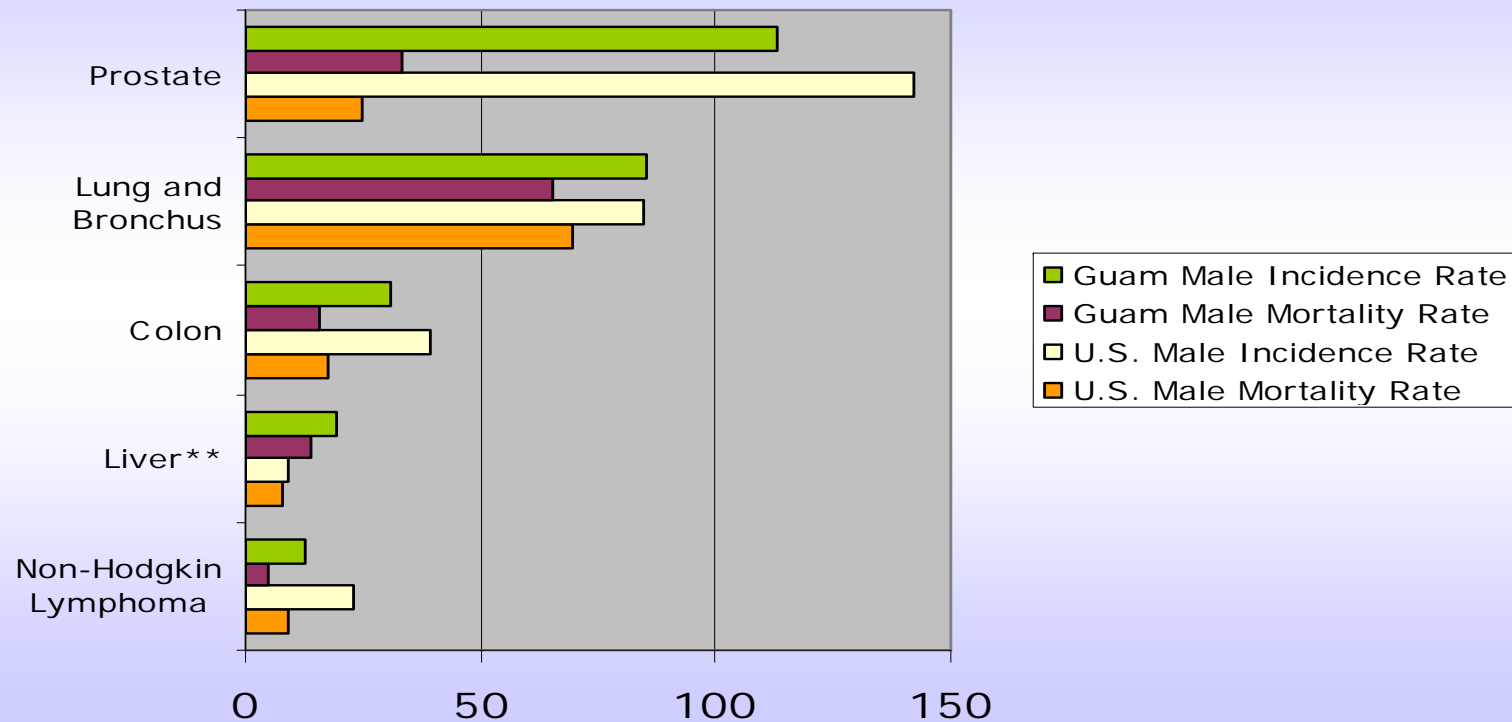
Source: University of Guam, Cancer Research Center of Guam, Guam Cancer Registry, 2009. Cancer and Morality of Guam Residents by Site, Gender, Ethnicity, and Age, Guam: 2003-2007 Guam. March 28, 2009. Incidence and mortality rates are age-adjusted to 2000 U.S. Standard Population. Mid-Period 2005 cancer incidence rates. Available at <http://apps.nccd.cdc.gov/uscs/>



Cases per 100,000 population, age-adjusted to the U.S. 2000 standard population



## Comparison of Guam and U.S. Male Cancer Incidence and Mortality Rates: 2003-2007



\*Rates are suppressed if fewer than 5 cases were reported in a specific category

\*\*For U.S. stats: Uterus, NOS and Liver and Intrahepatic Bile Duct

Source: University of Guam, Cancer Research Center of Guam, Guam Cancer Registry, 2009. Cancer and Morality of Guam Residents by Site, Gender, Ethnicity, and Age, Guam: 2003-2007 Guam. March 28, 2009. Incidence and mortality rates are age-adjusted to 2000 U.S. Standard Population. Mid-Period 2005 cancer incidence rates. Available at <http://apps.nccd.cdc.gov/uscs/>

**Cases per 100,000 population, age-adjusted to the U.S. 2000 standard population.**



# Implications

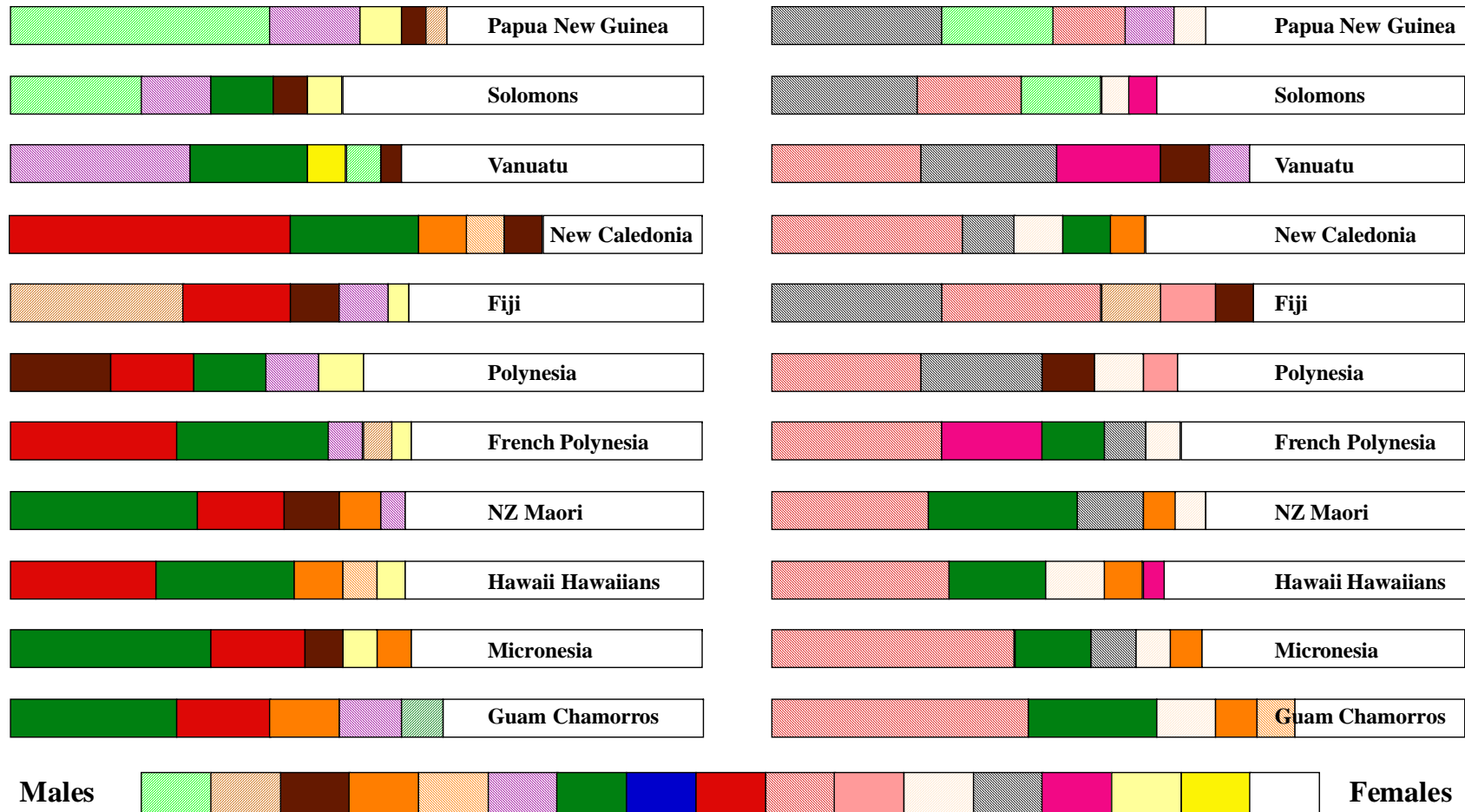
- Lung cancer accounts for the highest number of deaths in the U.S. and in Guam for both men and women
- Medical professionals are in the front lines in screening, prevention and intervention
- Public policy must support tobacco-free and cancer-risk lowering lifestyles



# Other Pacific Islanders

- How do rates for ethnic groups on Guam compare with other Pacific Islander groups?
- Incidence
- Mortality
- Culture
- Availability of cancer screening and care

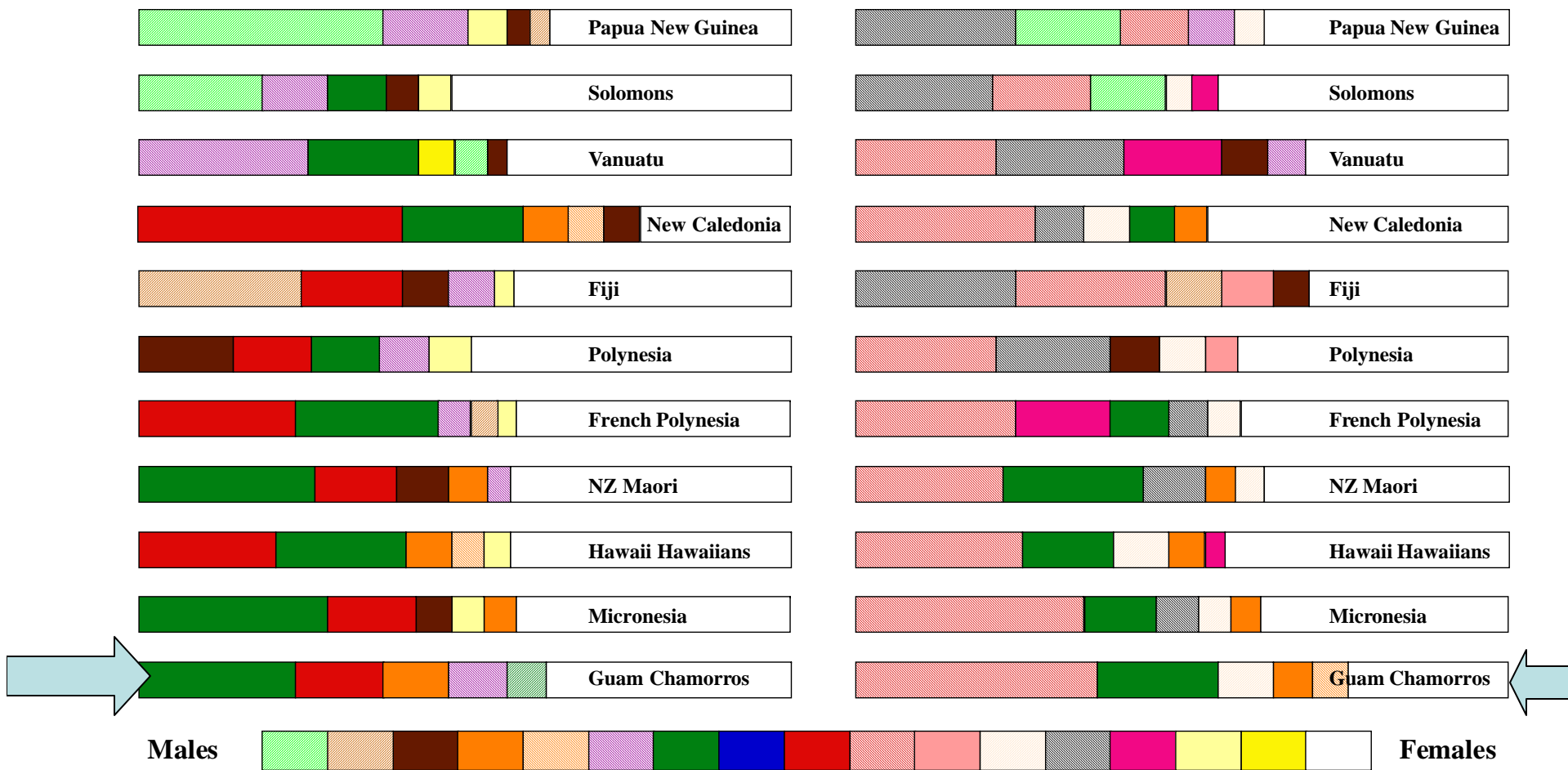




## Percentage Data for the Five Most Prevalent Cancers in Countries/ Populations of the Pacific Ocean

Moore, et.al., *Cancer epidemiology in the Pacific Islands-past, present and future*, APJCP, vol 10, Asian Epidemiology Supplement, 2009





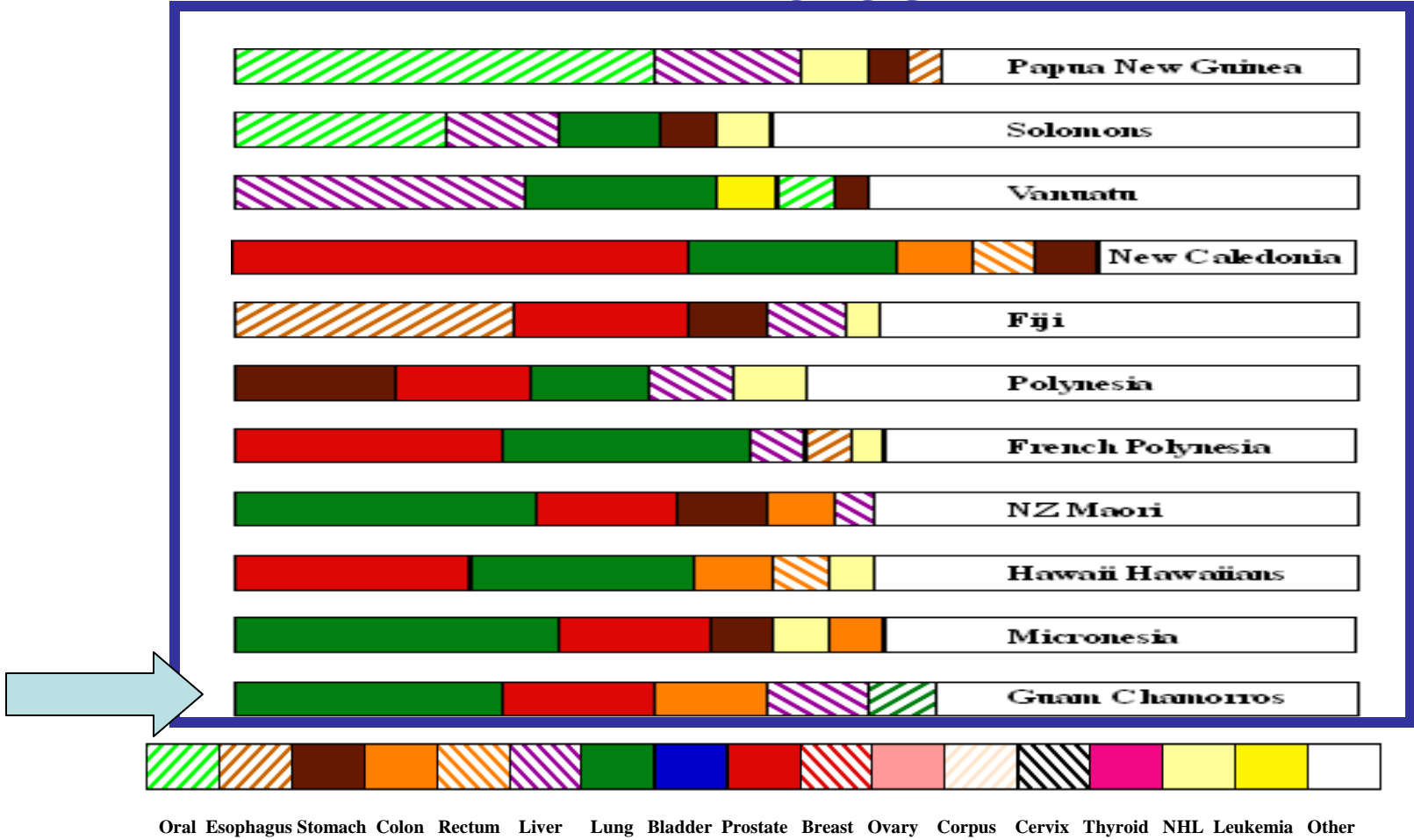
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# Percentage Data for the Five Most Prevalent Cancers in Populations of the Pacific Ocean

## Males



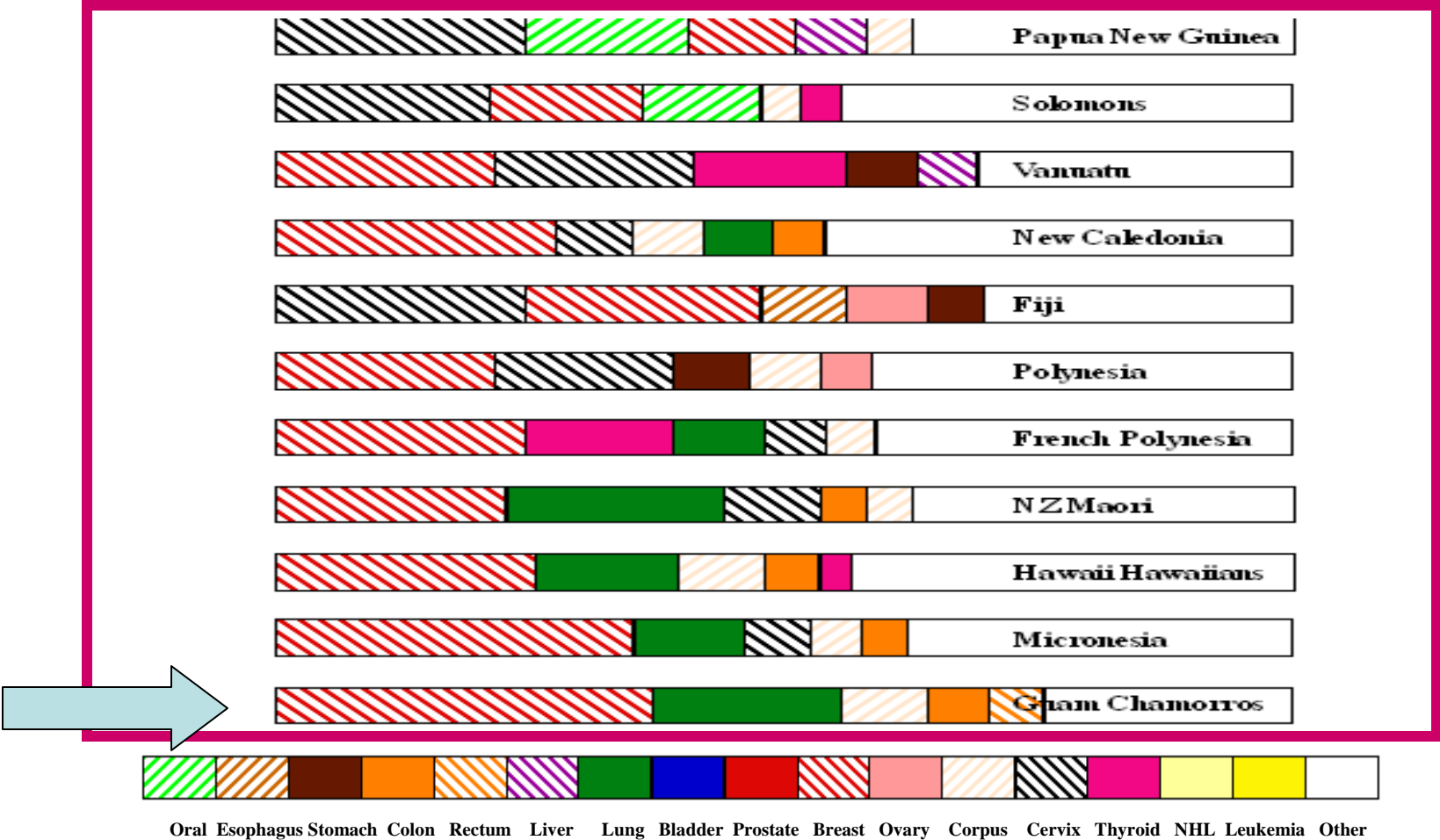
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Micronesia Medical Symposium 2009

# Percentage Data for the Five Most Prevalent Cancers in Populations of the Pacific Ocean

## Females



Moore, et.al., *Cancer epidemiology in the Pacific Islands-past, present and future*, APJCP, vol 10, Asian Epidemiology Supplement, 2009



# Pacific Islanders in the Pacific

- Tend to have similar cancer incidence
- Access to screening?
- Outreach and education to ameliorate cancer risk factors (cancer death rate inversely correlated with educational attainment-ACS, 2009)
- Cancer treatment and support
- Health insurance system needed to focus on prevention and be widely available





# Guam

- The highest mortality site for both sexes is lung and bronchus.
  - Youth tobacco cessation program
- Most cancers in Pacific Island populations are linked to lifestyle/SES (smoking, obesity, physical inactivity, poor nutrition) or infections (HPV, Hepatitis B and C) and are candidates for interventions
- Cancer prevention, screening and education
- Cancer treatment and care



# 2009

- NIH funding for Cancer Research Center
- Opening of cancer center for radiation treatment
- Legislative action?
  - Increase in tobacco taxes to fund cancer registry, screening, prevention
  - Cancer Control Act of Guam



# References

- American Cancer Society, Cancer Facts & Figures 2009 at [www.cancer.org](http://www.cancer.org)
- American Cancer Society, Surveillance and Health Policy Research, 2009 at [www.cancer.org](http://www.cancer.org)
- Haddock, R, Talon, R, Whippy, H. J. D. Ethnic disparities in cancer mortality among residents of Guam. Asian Pacific Journal of Cancer Prevention. (2006 Jul-Sep): 7(3); 411-414.
- Haddock, R, Whippy, HJD, Talon, RJ, Montano, MV. Ethnic disparities in cancer incidence among residents of Guam. Asian Pacific Journal of Cancer Prevention. (2009): 10; 1-4.
- Moore, M, Baumann, F., Foliaki, S., Haddock, R., Maraka, R., Koroivueta, J., Taga, Y., Vinit, T., Whippy, HJD., Sobue, T. Cancer epidemiology in the Pacific Islands-past, present, and future. Asian Pacific Journal of Cancer Prevention (Asian Epidemiology Supplement, 2009): 10; 97-103.
- Guam Cancer Facts and Figures 2003-2007. Guam Comprehensive Cancer Control Coalition, A. David, Chairperson. 2009
- [seer.cancer.gov](http://seer.cancer.gov) for statistics on US incidence and mortality rates and trends





“The greatest problem in communication is the illusion that it has been accomplished.”

George Bernard Shaw

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