

## APCC2009 Gastric Cancer WG Epidemiology

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Notwithstanding a remarkable spontaneous decline in incidence over the past several decades in most western countries, gastric cancer remains one of the most common cancers in the world. Presently it is the fourth-most commonly occurring cancer (9% of all cancers) and second-most common cause of cancer-related death (10% of all cancer deaths). Incidence has been estimated at around 934,000 cases annually; of these, 56% of the new cases arise in Eastern Asia, of which 41% occur in China and 11% in Japan. Incidence rates are highest in Eastern Asia, Eastern Europe and South America, and lowest in South-East Asia, South Asia, North America, Oceania, and Northern Europe. The majority of gastric cancers in Asia still occur in the distal part of the stomach, in contrast to a marked decline in distal cases and increase in proximal cases in western countries.

When people emigrate between populations with different risks of gastric cancer, their risk patterns are usually retained or only slightly modified, regardless of their country of origin or destination. Rates subsequently adjust to that prevailing in the new environment in the succeeding generation.

Considerable knowledge of potential risk factors has been accumulated over the past few decades, and primary prevention no longer appears unattainable. *Helicobacter pylori*, the strongest and most important risk factor, is likely to become the first target of future prevention strategies. The precision of targeted interventions will likely be improved by a deeper understanding of effect-modifying factors or circumstances for this bacterium, the host, and/or the environment. Dietary factors, particularly intake of antioxidant-rich fruit and vegetables, are likely to be important. New insights into bacterial and human genetics may enable a more precise focus on high-risk groups, and may also allow the selective prevention of infections predestined to trigger the carcinogenic process.

Due to the rapid aging of populations in Eastern Asia, a high-risk area of gastric cancer, absolute numbers of gastric cancer incidence will remain plateaued or show a gradual increase before signs of leveling off are seen, and the downward trend will take some time to appear. On the other hand, the significant decline in *H. pylori* positivity presently seen in the young may lead to the low incidence rates now evident in developed Western countries.