

# Media Release

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## Geography Finds its Place at the Forefront of Healthcare

**22 September 2011, Melbourne:** The history of where you have lived and worked is as vital in healthcare diagnoses as your genetics and lifestyle, according to a leading American geomedicine specialist.

Speaking at the Healthcare Information and Management System Society AsiaPac11 conference in Melbourne today, Esri Global Hospital and Health Specialist Ann Bossard warned of the risks of ignoring 'place' in medicine.

"Medical practitioners have traditionally relied heavily on patient information gathered through direct observation and diagnostic testing, parental health histories, and prior treatments," Ms Bossard said.

"However, this information has limited use unless it is combined with an understanding of the environmental hazards a patient has been exposed to throughout their lives.

"For example, we know that living or working within a certain proximity of highways can significantly increase the risk of asthma and other respiratory illnesses."

Ms Bossard cited a World Health Organisation study which reported that up to 30 per cent of morbidity and mortality was a direct result of living or working in and around unhealthy physical and social environments.

"This has been identified as a serious global issue which needs to be addressed," Ms Bossard said.

"Adding a geographical context, using cutting-edge Geographic Information Systems (GIS) technology, will not only accelerate diagnosis but increase the likelihood that physicians will make treatment recommendations that patients can comply successfully.

“Ultimately, a rich and accurate history of where a patient has lived and worked is integral to responsible healthcare.”

The field of geomedicine, which examines the link between environmental factors and the geographical distribution of health issues, is not new.

However recent advances in GIS technology driven by Esri in the U.S., and here in Australia by affiliate Esri Australia, have pushed the envelope of geomedical applications.

In the U.S., an online mapping website developed using Esri GIS technology enables users to search residential and work locations and find which health issues are related to those areas, as well as possible causes.

Esri Australia’s Victorian GIS in Health specialist Jeremy Pytel said Australia’s healthcare system is well behind the U.S. when it comes to leveraging GIS technology.

“According to ABS statistics 68% of Australians live in cities – where there is compromised air quality and exposure to pollutants,” said Mr Pytel.

“Research proves these contaminations are precursors to circulatory and respiratory disease.

“Australia’s urban sprawl has also seen areas once dominated by industry and agriculture transformed into housing estates, parks and schools.

“For example, many towns and cities in Victoria have been built in areas with a history of gold mining. In some instances, mine tailings that contain arsenic are spread over large areas of land, including land now used for housing.

“Long term exposure to arsenic has been linked to liver, kidney and nerve damage as well as a variety of cancers – the value of GIS lies in its ability to translate this rich environmental health data into a meaningful patient profile.

“A health system underpinned with GIS will see patients benefit from a more precise clinical understanding of the links between their health and where they live, work, and play.”

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**About Esri Australia**

Esri Australia has a 33 year history of providing location intelligence and data mapping solutions that help organisations make smart business decisions. The combination of local expertise and world-leading Esri GIS technology has helped thousands of government departments and commercial organisations to turn their data, information and knowledge into collective insight to reveal opportunity.

**About GIS**

Geographic Information Systems are a key piece of technology used in thousands of organisations Australia-wide from the military and government, to the insurance and mining sector. Australia's GIS industry currently stands at over \$2.1 billion and more than 300,000 organisations across the world use Esri GIS.