

**Executive Summary for Naples Birth Defects Study**  
**Navy and Marine Corps Public Health Center**  
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For more than a decade, the Campania region of Italy has experienced numerous environmental crises resulting from inadequate trash collection, burning of trash in the streets, and reports of illegal hazardous waste disposal. In 2007 these concerns peaked, in part, due to Italian health publications citing an increase in cancer rates and long term health effects in certain locales of the Campania Region due to environmental conditions. This prompted the Navy to initiate a Public Health Evaluation. The Public Health Evaluation, directed by the Navy and Marine Corps Public Health Center (NMCPHC) includes three primary efforts:

1. Three epidemiology studies: asthma, cancer and birth defects;
2. A human health risk assessment based on air, tap water, soil, soil gas sampling;
3. Limited testing of commissary foods.

Based on concerns raised by the Italian health studies, NMCPHC asked the DoD Birth and Infant Health Registry to conduct a study of birth defects among DoD beneficiary infants who got pregnant (conceived) in and around Naples, Italy. The DoD Birth and Infant Health Registry (Registry), managed by the DoD Center for Deployment Health Research, located at the Naval Health Research Center, San Diego, captures comprehensive healthcare data to define all live births and infant health outcomes among infants born to DoD beneficiaries. Registry professionals used enrollment records of U.S. Military personnel and beneficiaries to overseas Navy Military Treatment Facilities (MTF) and Clinics, who gave birth from January 2000 through December 2005, to identify the study sample.

The study included infants born from January 2000 through December 2005 whose mother was enrolled to an overseas MTF or clinic during the month prior to conception and the following three months. Additionally, these four months of enrollment were required to be at a facility within the same parent MTF, and the sponsor was active duty or activated reserve/guard at the time of birth. Infants with these four months of enrollment at the U.S. Naval Hospital Naples, or the clinics in Gaeta or Capodichino, were considered to be exposed to the Naples environment. A total of 894 births attributed to Naples were included in the study.

The birth defects study was designed to answer one fundamental question:

Was the risk of a birth defect in children who were conceived while the mothers were enrolled in Naples significantly different from children born to mothers who were enrolled to other overseas facilities?

The study concluded:

1. The risk of a birth defect in children conceived overseas and in Naples were both lower than the overall Navy rate during the study period.
2. When compared to the risk of a birth defect in children conceived at other overseas facilities, the risks were higher, but the difference was not statistically significant.
3. Environmental testing results from the ongoing Naples Public Health Evaluation, once completed, and specific behavioral information from the parents might be used to better assess the effects of exposure on the adverse birth outcome rate.

Additional technical details are available in the full study.

For further questions locally please contact:

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