



CDC Emergency Assessment Petrochemical Waste Release

Abidjan, Cote d'Ivoire
September–October, 2006

NCEH/ATSDR

Background, August – September 2006:

- 17 Sites of petrochemical waste were discovered in and around Abidjan
- Cote d'Ivoire Anti-pollution (CIAPOL) and other agencies determined that the waste originated from a ship carrying approx 528 m³ of petroleum waste
- The waste mixture was composed of:
 - Hydrocarbons
 - Hydrogen sulfide
 - Mercaptans
 - Phenols
 - Trace chlorinated hydrocarbons
- Subsequently, a large number of people presented for evaluation of self-reported chemical exposure

CDC Response

- Cote d'Ivoire (CDI) Ministry of Health and US Embassy CDC requested support of:
 - Environmental evaluation of protective measures
 - Epidemiology exposure assessment
 - Risk Communications
 - Liaison with other agencies conducting environmental health activities:
 - World Health Organization (WHO)
 - United Nations Disaster Assistance Coordination (UNDAC)
 - CIAPOL
 - Institut National de Sante Publique (INSP)
 - Institut National d'Hygiene Publique (INHP)
- On September 19, 2006, CDC Atlanta sent an environmental health scientist, medical epidemiologist, and a risk communications specialist

CDC Activities: Environmental Assessment

Met with INSP, INHP, WHO, CIAPOL, UNDAC and French remediation company to:

- Review limited available environmental data
- Discuss the current status of petrochemical release sites
- Provide recommendations to monitor current remediation

CDC Activities: Epidemiology

Met with epidemiologist and clinicians from INSP, INHP, and WHO to:

- Discuss strategies to assess exposure
- Formulate case-definitions for intoxication to hydrogen sulfide and mercaptans
- Develop a study protocol to identify modifiable risk factors
- Explore prospective evaluations

CDC Activities: Risk Communications

- Conducted risk communication in-services with Ministry of Health communications staff

Environmental Assessment Recommendations

- CDI CIAPOL desktop review of clean-up protocols to verify that remediation conforms to international standards
- Develop air and water monitoring to establish baseline
- Restrict multiple uncontrolled solid waste dumpsites throughout the city of Abidjan

Epidemiology Recommendations

- Continue collection of case-patient medical records to conduct case-series of dead and hospitalized patients
- Consider initiating case-control study using provided protocol

Note: as of September, 2006, there was insufficient data to support long-term follow-up of potentially exposed population

Risk Communication Recommendations

- Review daily:
 - Public health messages
 - Methods of matching visual cues to intended messages
 - Communications for low-reading proficiency populations
- Share risk communication materials provided to Ministry of Health



We wish to thank the Ministry
of Health and its partner agencies for
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