OJPHI

ISDS 2013 Conference Abstracts

ISDS INTERNATIONAL SOCIETY for DISEASE SURVEILLANCE

Geospatial Reporting of Health Demographic Surveillance in a Peri Urban Setting

Murtaza T. Ali*, Abdul M. Kazi, Muhammad I. Nisar, Muhammad Ilyas and Anita Zaidi

Department of Paediatrics and Child Health, The Aga Khan University, Karachi, Pakistan

Objective

Geospatial reports are generated to facilitate an ongoing health demographic surveillance system (HDSS) conducted at a peri urban site of Karachi Pakistan. The geospatial maps facilitate in monitoring and protocol adherence of HDSS. In addition different geospatial relationships can be analyzed and various epidemiological patterns can be studied.

Introduction

The department of Paediatrics is conducting a HDSS with focus on maternal and child health at peri - urban sites located in Karachi, Pakistan. The study catchment area is 19 sq km with a population of around 274,856. Females between 15 to 49 years of age and less than 5 years old children cohort is around 67,802 and 39,028 respectively. In 2012 around 12557 pregnant women (PW) and 9,136 newborns (NB) were followed through active surveillance. As part of e-mapping the study catchment area which consists of around 50,520 structures has been digitized.

Methods

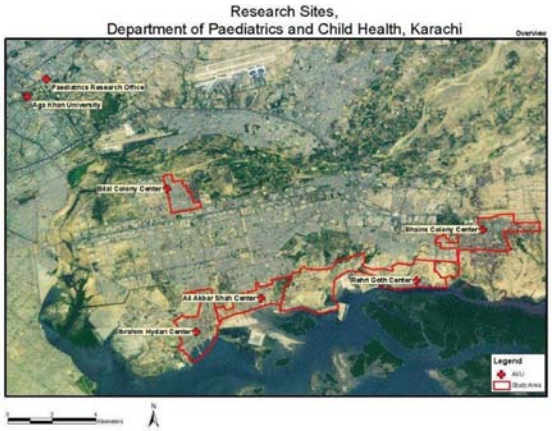
Information on females between 15 to 49 years of age and children less than 5 years of age is updated on quarterly bases. Daily reports are generated for pregnant woman follow-up, new born follow-up (up to 59 days of age), antenatal and post natal care visits. Field teams use these reports / follow up sheets to conduct schedule follow-up visits. The surveillance catchment area is divided into clusters/blocks of about 200 to 250 structures. Each structure is marked with a unique number and each married women, pregnant women and <5 year old child's unique ID is collated with the GPS coordinate of the structure they live in. Block boundary is mapped using the GPS track log technique. Structures, streets and landmarks are digitized using different GIS mapping techniques. Important landmarks and relevant study variables for example health facilities, TBAs, and diseases under surveillance are also digitized. The pregnant women, newborns and other outcome captured by the field surveillance teams are mapped through GIS system.

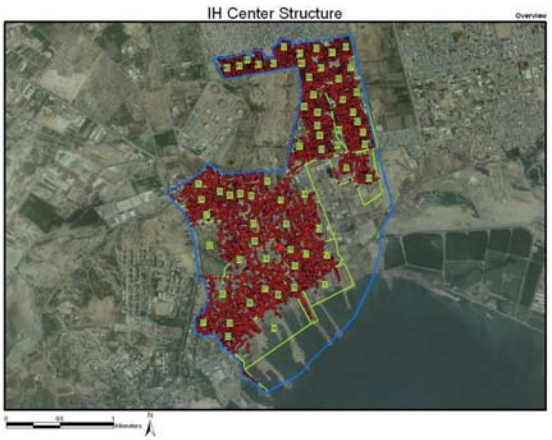
Results

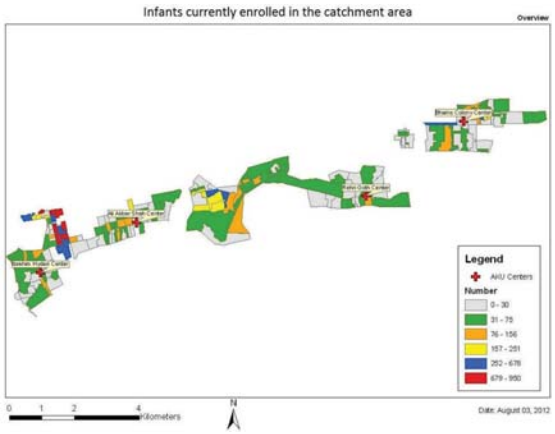
Geospatial visualization helps in tracking ongoing surveillance and epidemiological studies and exploring different geospatial relationships.

Conclusions

To improve the mortality and morbidity rate by early detection of pregnancy and births.







Keywords
Geo-Spatial; Surveillance; Epidemiological; GPS; GIS

Acknowledgments

Demographic System Surveillance team, Karachi site

References

Anita K. M. Z, et. al. Simplified Antibiotic Regimens for the Management of Clinically Diagnosed Severe Infections in Newborns and Young Infants in First-level Facilities in Karachi, Pakistan. (2013). The Pediatric Infectious Disease Journal, 32 (9), S19–S25.

Fisher RP, Myers BA. Free and simple GIS as appropriate for health mapping in low resource setting: a case study in eastern Indonesia. International journal of health geographics. 2011, Feb; 10, 15.

Momin, K, Murtaza, A, & Anita, A. Use of SMS text for Maternal and Child Health Surveillance in resource constrain Setting. Journal mobile in medicine. (2012). 1:4S:46.

***Murtaza T. Ali**
E-mail: murtaza.ali@aku.edu