Infectious Disease

The Southern Nevada Health District (SNHD) seeks a fellow to join the existing epidemiology program in order to develop a robust and effective surveillance system for tracking influenza A (H1N1) this fall and beyond. There exists a unique opportunity to develop electronic disease reporting from laboratories and the 13 private hospitals that serve the 2.3 million residents, including 350,000 public school students in the district. There is also an opportunity to expand a new pediatric virus surveillance system to track influenza A (H1N1). Dr Middaugh supervises the epidemiology program and the Southern Nevada Public Health Laboratory, so there will be seamless integration of between epidemiology and public health laboratory system development. The SNHD has also recently hired an expert in public health informatics who will provide advanced, sophisticated informatics support to this effort. We envision no barriers to implementing the new surveillance system and further developing the existing surveillance infrastructure. The fellow will be responsible for the following, under the guidance of Dr Middaugh:

- Reviewing the methodology for determining influenza and pneumonia related deaths and comparing the projected numbers with those actually occurring during the upcoming influenza season
- Establishing active surveillance to enumerate all patients hospitalized with influenza during the upcoming influenza season
- Expanding our active influenza virus pediatric surveillance system to track the burden of influenza H1N1 during the upcoming influenza season
- Expand the pediatric virus surveillance system to enable monitoring for all respiratory and enteric viruses on a year round basis
- Developing a standardized report to share the results of our comprehensive influenza surveillance system with the media, health care providers, and the general public • Analyzing daily school absenteeism from the Clark County School District, comprising 315,000 students from 350 schools using an existing computerized absenteeism database, and studying the relationship of influenza illness to school absenteeism. In addition to these activities focused on the influenza A (H1N1) outbreak, there will be an opportunity to develop a new district-wide surveillance system database that includes laboratory disease reporting, and a new, web-based infectious disease reporting system to be used by hospital-based practitioners of infection control and by sentinel physicians.

Day-to-Day Activities:

- Provide analyses of infectious disease morbidity data and write technical summaries of disease trends and disparities.
- Analyze existing data on TB, STD, HIV, and immunization to enable program evaluation, identify sub-populations to target outreach interventions, and design innovative intervention strategies.
- Investigate identified disease outbreaks
- Expand viral active surveillance through recruitment of physicians to obtain and submit to our public health laboratory appropriate diagnostic specimens.

- Provide epidemiology expert consultation to existing epidemiology staff.

Potential Projects:

- Expand active viral surveillance
- Expand use of electronic infectious disease reporting over the web
- Participate in evaluating the value of the Biowatch Program in Las Vegas. This national program is under the Department of Homeland Security and focuses on routine monitoring to detect certain select pathogens using laboratory detection of air samples. The program has not been evaluated and has significant impact on public health. We will review the theoretical basis of the program and then examine if the program can realistically contribute to existing surveillance to improve a public health response.
- Develop an up-to-date public health description of the health status of Clark County, drawing on existing data and demographics. The intention is to provide a practical, user friendly manual that can be used to describe the major health challenges facing the community, and to make these data and analyses readily available to all agencies to facilitate their understanding and ability to apply for funding.

Emergency Preparedness Role:

- The fellow will be an integral member of our ongoing disease surveillance program, with special emphasis on evaluating and improving our influenza surveillance system. There is a unique opportunity to investigate the contribution of influenza to morbidity and mortality using the data collected during this outbreak season.
- Analysis of the Biowatch Program will provide a unique opportunity to examine the status of emergency preparedness in Southern Nevada

Assignment Location:	Las Vegas, NV
Primary Mentor:	John Middaugh, MD Director, Division of Community Health Southern Nevada Health District
Secondary Mentor:	Lawrence Sands, DO, MPH Chief Health Officer Southern Nevada Health District