

## Global Infectious Diseases and Epidemiology Network (GIDEON)

Berger, S. A. (2005). GIDEON: A comprehensive web-based resource for geographic medicine. *Int.J.Health.Geogr.*, 4(1), 10.

Edberg, S. C. (2005). Global infectious diseases and epidemiology network (GIDEON): A world wide web-based program for diagnosis and informatics in infectious diseases. *Clinical Infectious Diseases : An Official Publication of the Infectious Diseases Society of America*, 40(1), 123-126.

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INLS 279: Bioinformatics Research Review  
2006-04-12

The two papers selected focus on Global Infectious Diseases and Epidemiology Network (GIDEON), a database designed to support decision making in geographic medicine.

Users can also elect to use GIDEON via a CD-ROM or web-database. GIDEON is the product of collaboration between specialists in infectious diseases, epidemiology, microbiology, biostatistics and computer sciences at university-based medical schools in the United States and Israel. GIDEON has four interactive models generate a differential diagnosis based on patient signs, symptoms, exposure history, and country of disease acquisition.

Although we were impressed with how much information GIDEON contains, we questioned who the real users of this product would be. GIDEON's developers argue that this product could be used by emergency room physicians, infectious disease specialists, hospitals, medical schools, public health departments and the military. However, we questioned whether there were ways that the developers could better gear this product to those groups. One idea we discussed is creating different interfaces based on the intended

audience. For instance, a medical student may be interested in looking at very different information than a public health worker in Africa.

Our group was also curious about why GIDEON's developers decided to employ four modules. In some cases, it appeared that the content of the models overlapped. For instance, in the Epidemiology module we questioned whether separate Synonym and Fingerprint searched were required. It seemed to us that the system might be able to rework how it displays data for the system's users.

An additional way how the authors could improve the case for GIDEON is by running more tests to measure the GIDEON's accuracy. Berger discusses two studies that showed drastically different results when measuring GIDEON's accuracy. He states that a study of 500 cases conducted found that the correct diagnosis was listed in the differential list 94.7 percent of the time and was ranked first 75 percent of the time. A second study found that the correct diagnosis was listed only 69 percent of the time and was ranked first 60 percent of the time. Since these two studies showed very different levels of accuracy, we would suggest that more studies are done in the future to find a accurate representation.

An additional way in which the articles could be improved is by further explaining how GIDEON calculates the statistical likelihood of diseases. Specifically, it would be useful if the authors could run through an entire example problem in addition to stating the GIDEON's probability formula.

Finally, in both articles, the authors make reference to the fact that GIDEON is a database of “generic infectious diseases” without defining what qualifies as a generic disease. The articles could be improved if the authors explained how a generic disease is distinct from other types of diseases.