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Get Your Daily Plague Forecast

Seán  10.19.06

Captain

Web-based maps are handy for keeping tabs on weather and traffic, so why not for disease outbreaks, too?

The new [Healthmap](#) website digests information from a variety of sources ranging from the World Health Organization to Google News and plots the spread of about 50 diseases on a continually updated global map. It was developed as a side project by two staffers at the [Children's Hospital Informatics Program](#) in Boston -- physician John Brownstein and software developer Clark Freifeld.

While working on a state-funded program to track disease outbreaks in Massachusetts, the two discovered some inconsistencies in how information is reported. Some sources, such as [ProMed-mail](#), provide very specific data that is verified by medical experts, but the process can be lengthy. At the other extreme, newspaper articles and blog entries come out far more quickly, but they are more likely to contain errors such as unconfirmed reports about avian flu infections in a country.

"You always have this trade-off between timeliness and specificity," said Brownstein.

To cheat the trade-off, the pair developed a site that collects data from various sources: the slow and accurate as well as the fast and approximate. Freifeld created a computer program that scans text from [RSS](#) news feeds and web page "screen scrapes" to find information about a disease and where it was reported. Using [Google Maps](#), the site places icons that correspond to individual disease reports.

Visitors can cut the data in various ways. For example, they can display information for a single disease such as dengue fever, all 53 diseases in the database or any number in between. They can choose which and how many of the four health news sources to display: ProMed-mail, the [World Health Organization](#), [Eurosurveillance](#) and [Google News](#). They can also filter reports by country.

The system was buggy at first, concedes Freifeld, who remembers trouble with a report about Crimean-Congo hemorrhagic fever in Turkey. Seeing the word "Congo," the program originally reported the outbreak as happening in central Africa, not Asia Minor. The program also had trouble with regional newspaper articles, which don't bother to say where an event happened, because it's self-evident to local readers. "The *Podunk Times* reports only about Podunk," said Freifeld.

He and Brownstein eventually worked out the bugs, launching the website Sept. 26. They see it as a one-stop shop for health professionals, but also as a resource for travelers to get a glimpse at what they are heading into.

The two are already planning expansions, such as adding more data sources. For example, Freifeld is now trying to integrate blog search engines. And they will expand the geographical data. The information on the site currently stops at the national scale, but Brownstein says they will soon go "at least to the city level." He said they will also add "temporal resolution" -- for example providing animations that show how influenza has spread over the previous month.

Finally, they will look for a permanent home. Brownstein and Freifeld are developing and paying for the site on their own, but they are investigating federal funding or partnerships with organizations.