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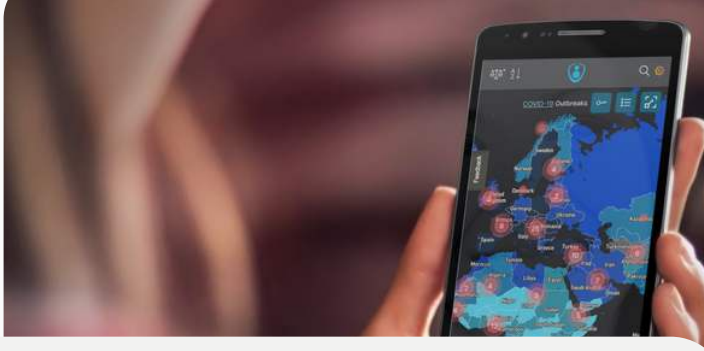

Predicting Future Outbreaks

> We are limited by data that is both spatially resolved to country-level as well as temporally resolved. That is one of the biggest strengths of GIDEON, as a lot of the time, we only have one or the other.
>
> **Dr. Tad A. Dallas**
> Assistant Professor, University of South Carolina

In November 2019, The Royal Society published an open-access, unfunded research “Testing predictability of disease outbreaks with a simple model of pathogen biography” written by three enthusiastic researchers - Dr. Tad A. Dallas, Dr. Colin J. Carlson, and Dr. Timothée Poisot.

To predict future outbreaks, they looked for patterns in the past, using the GIDEON dataset to create a model that was able to ‘capture pathogen outbreak and re-emergence potential <..> suggesting that these events are both recurrent and predictable’.

THE CHALLENGE

Embarking on a project, the team initially found it difficult to locate the right data source. “There isn’t any cohesive narrative about where outbreaks happen. We used the GIDEON data because we thought it might be the most complete thing there is. I don’t think we could have modeled the data set we did without GIDEON data, for sure”, said Colin J. Carlson.

THE GIDEON SOLUTION

GIDEON has a dedicated geographical distribution dataset for each Infectious Disease, which defines the endemic countries and provides country-specific notes as well as an in-depth analysis of global distribution.

The dataset helped Tad, Colin, and Timothee save months of time that would have otherwise been spent conducting manual research. The team produced a fantastic piece of work that challenges the status quo and suggests a new way of thinking.

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GIDEON data on historical outbreaks go back to 1348 AD, offering researchers unparalleled insight

GIDEON Advantages

REST API with R wrapper for streamlined data modeling

GIDEON API is designed to help researchers retrieve data programmatically, especially useful when working with data modeling. Epidemiologists can easily query the database **using a familiar R environment.**

In-depth analysis of global disease spread

GIDEON's database contains 120,000+ prevalence and seroprevalence surveys, 26,000 country-specific notes, and provides information on over **32,000 historical outbreaks and cross-border events.**

Updated daily by a team of experts

GIDEON is curated by a team of highly regarded medical scientists who are **updating the database daily.**

Millions of quality geospatial data points

GIDEON's geographical pathogen distribution database documents known infectious diseases across 240+ countries and territories. Outbreaks data is temporally and spatially resolved.

Interactive maps

GIDEON renders interactive global maps of disease distribution and outbreaks - **there is one for every disease.**

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