

# DNA Compass

## Emergency Genomics Infrastructure

Disaster Recovery Maps for Population Genomic Risk

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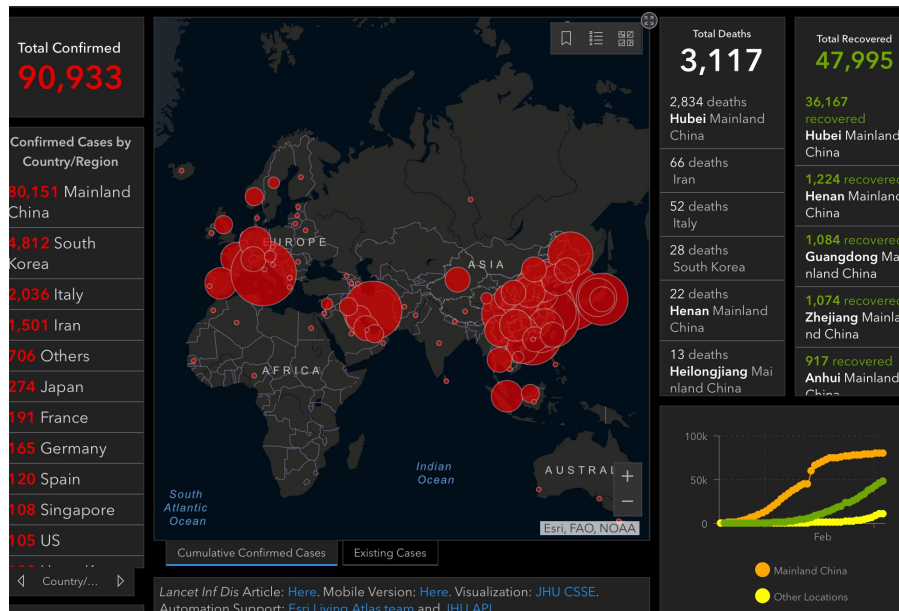
707-322-4686 @dnatimes



# Population Health Data Success

## John Hopkins Covid-19 Dashboard - ESRI ArcGIS

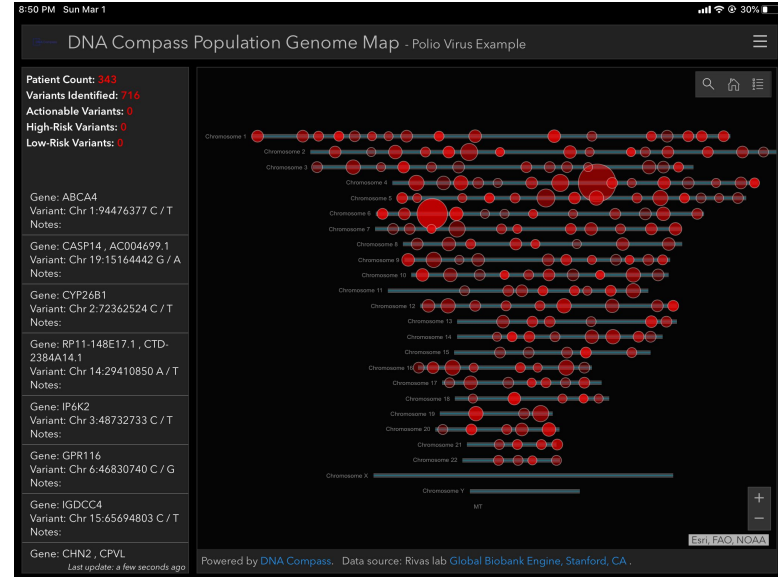
- 1 Billion Daily Page Views
- Trusted/Secure Platform
- Data from 150+ Countries
- Verified Identities
- Authoritative feeds
- Available in 40 Languages
- Used by 7,000 Universities, WHO, CDC, Hospitals and Community Clinics, Public



# DNA Compass Tech - Reuse Success

## Population Health Genomic Map - [DNAcovid-19.com](https://DNAcovid-19.com)

- ArcGIS is already deployed in community clinics, hospitals, universities, government, corporate and non-profits.
- DNA Compass leverage existing human relationships between entities already sharing population health data to add population genomic risk data.



# Covid-19 Death Risk Variants

dnacompass.maps.arcgis.com/apps/webappviewer/index.html?id=f00bcd59fb7c411b8cf7e7ffd7f04d4e

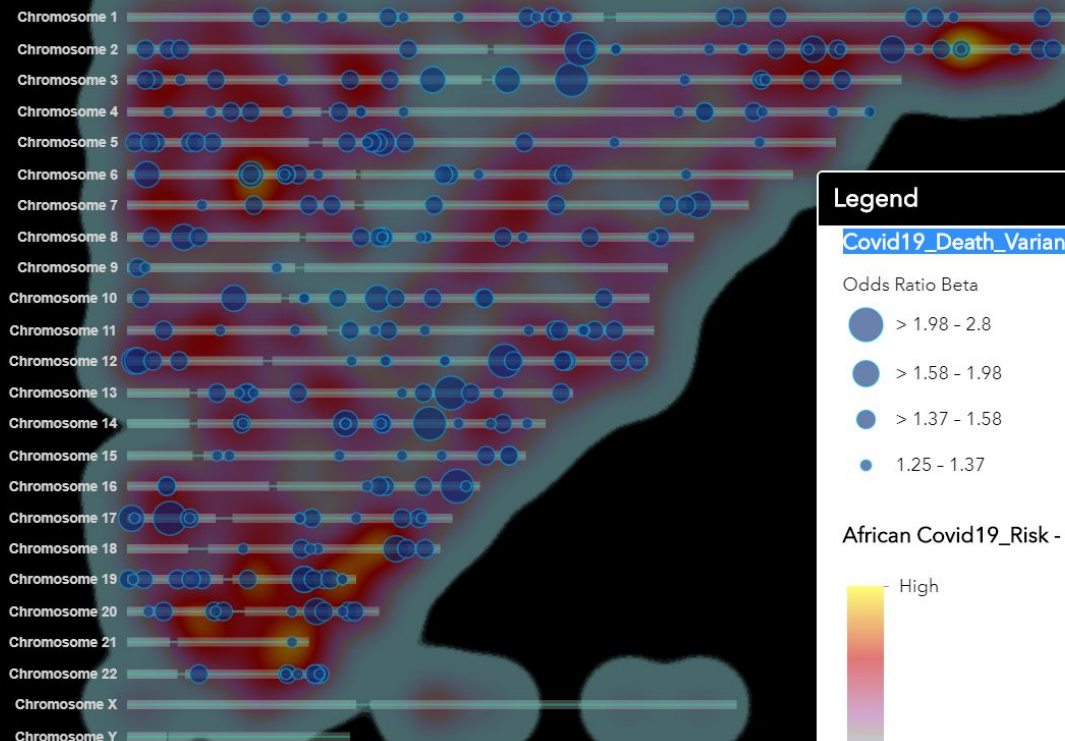
## Covid-19 Genetic Risk Virus Exposure

(not for medical use)

powered by DNA Compass



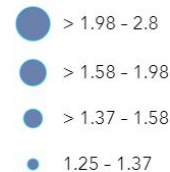
Marker ID or Gene



### Legend

#### Covid19\_Death\_Variants

Odds Ratio Beta



African Covid19\_Risk - Heatmap



## DNA Compass Goals

**Speed** - Use maps to enable immediate emergency response collaborations in compliance with all local/regional genomic privacy and security requirements.

**Trust** - Provide entities a way to create and distribute authoritative genomic content via verified identities to rapidly stratify populations by genomic risk.

**Scale** - Reuse a proven technology, ESRI ArcGIS, to automate comparing millions of patient genome maps against authoritative genomic risk map layers at scale



## How DNA Compass Works:

1. *Convert* (existing/new patient genomes to map layers)
2. *Consent* (move from de-identified to consented genomes)
3. *Compare* (patient map against genomic risk map layers)
4. *Collaborate* (with researchers worldwide, REST API)
5. *Cure* (speed-up discovery and distribution of treatment)

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**Kevin Noble, MS**

Advisor / Creative Dir.



**Chris Kritzer**

Automation  
Engineer



= 4700+  
 = 50,000+

\$0-\$55M in 18mo

St. Dir Commercial  
Strategy - Genentech

## How DNA Compass Meets the Challenge

**TECHNOLOGY:** DNA Compass reuses of ESRI ArcGIS (John Hopkins Covid-19 Map), a proven technology for sharing population health data. Our core product is a micro-geocoding genetic address web service.

**CREATIVITY:** Map infrastructure reuse is fast, cheap and easy to use. DNA Compass genetic micro-geocoding service requires no software installation.

**SCALABILITY:** ArcGIS platform supports billions of map views daily in 40 languages. DNA Compass can work with any mapping software.

**IMPACT:** Ability to gather, analyze and distribute authoritative genomic data, using verified identities, in compliance with government jurisdictions, at scale.



# The ArcGIS platform is where entities are sharing population health data

With DNA Compass, entities around the world can immediately add genomic data to their existing Emergency Population Health Data Platform.

THANK YOU

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