La scienza e le minacce, presenti e future

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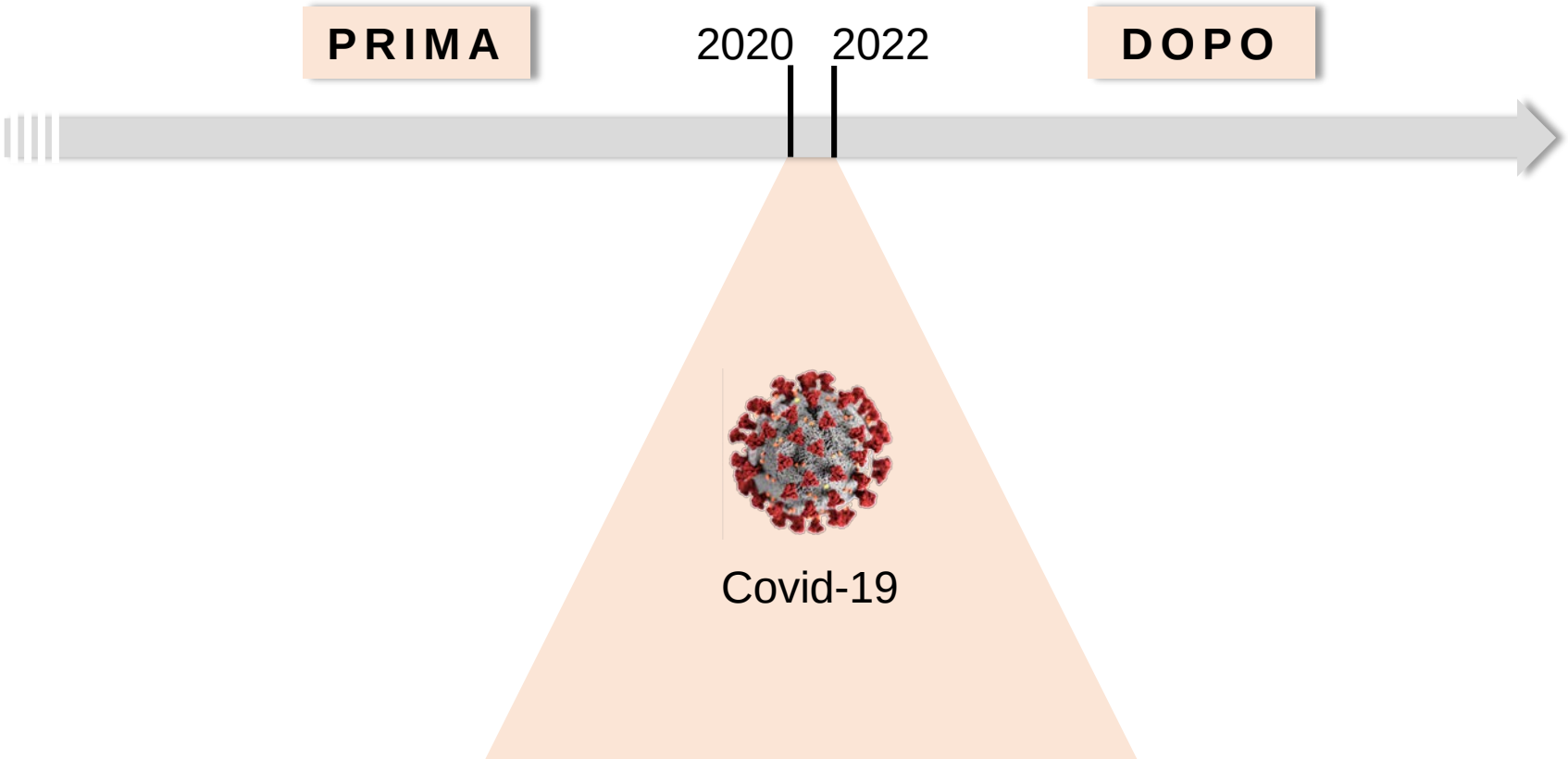
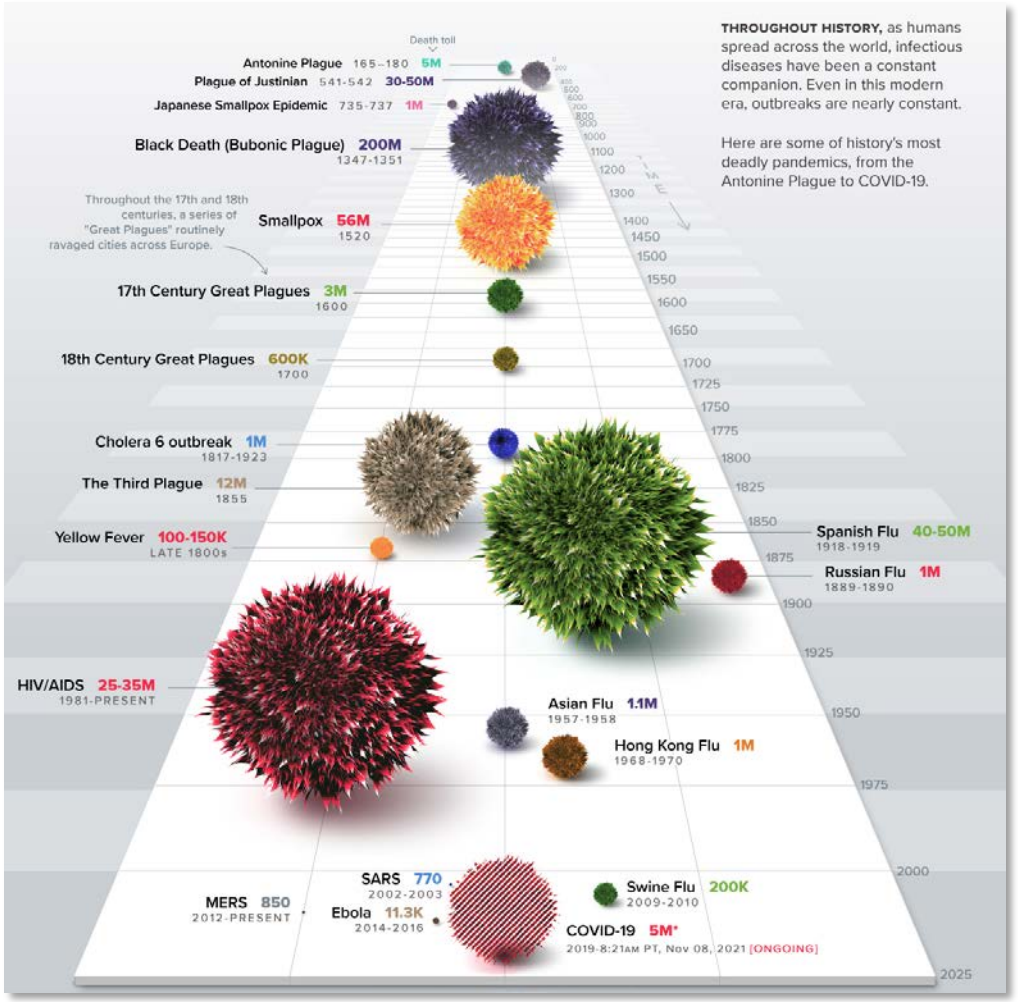


Epidemie e pandemie del passato

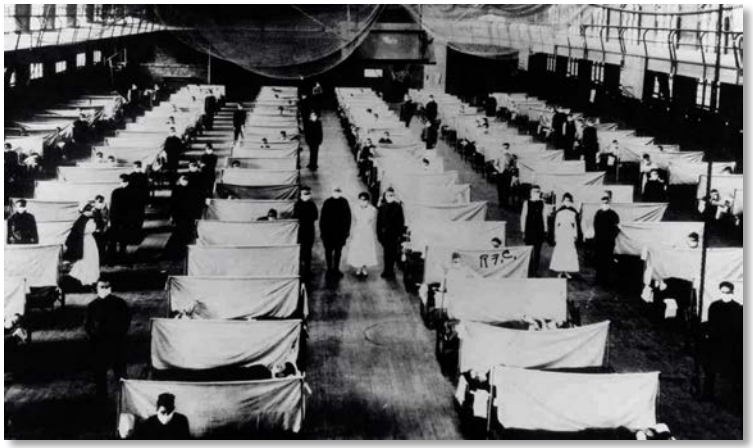


Source: visual capitalist

La spagnola e il covid

1918

https://www.neh.gov/article/last-pandemic



https://www.history.com/topics/middle-ages/pandemics-timeline

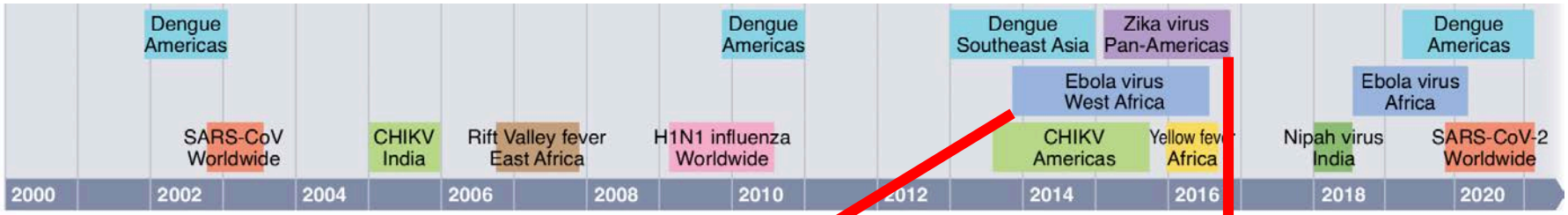
2020

https://www.npr.org/sections/coronavirus-live-updates/2020/05/23/861478616/under-legal-pressure-new-york-relaxes-restrictions-on-more-gatherings?t=1636888630214

> 10 anni per scoprire la causa

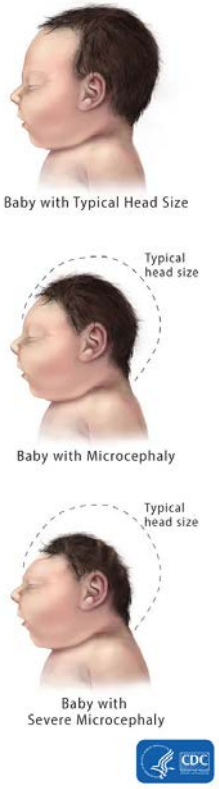
< 30 giorni per ottenere la sequenza completa del coronavirus

Epidemie negli ultimi 20 anni



Megank and Baric, Nature Medicine 2021

Source: nih.gov



La ‘malattia X’

World Health Organization

2018: “*Disease X represents the knowledge that a serious international epidemic could be caused by a pathogen currently unknown to cause human disease.”*

<u>Forze che favoriscono l’emergenza e disseminazione di nuove malattie infettive:</u>

- Cambiamenti climatici e degli ecosistemi
- Aumento dell’urbanizzazione
- Facilità e rapidità degli spostamenti

La ‘malattia X’

La domanda non è a sapere **se** ci saranno
altre epidemie,
bensí **quando, dove** e **quali** ne saranno le cause.

Arriva la ‘malattia X’

The New York Times

OPINION

We Knew Disease X Was Coming. It’s Here Now.

We need to stop what drives mass epidemics rather than just respond to individual diseases.

Feb. 27, 2020

Ricerca COVID negli Istituti di Bellinzona





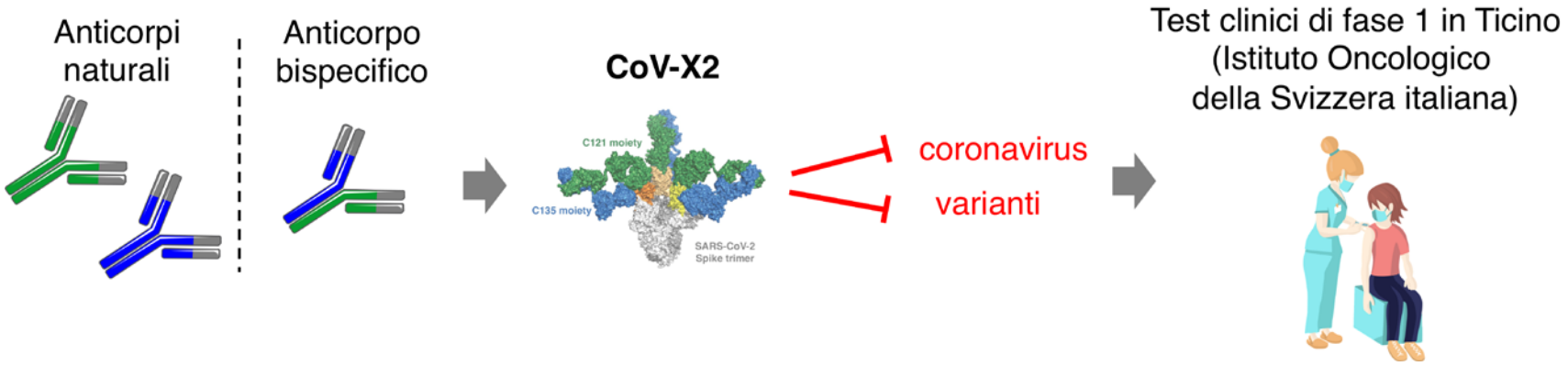

Istituto di Ricerca in Biomedicina

Istituto Oncologico di Ricerca

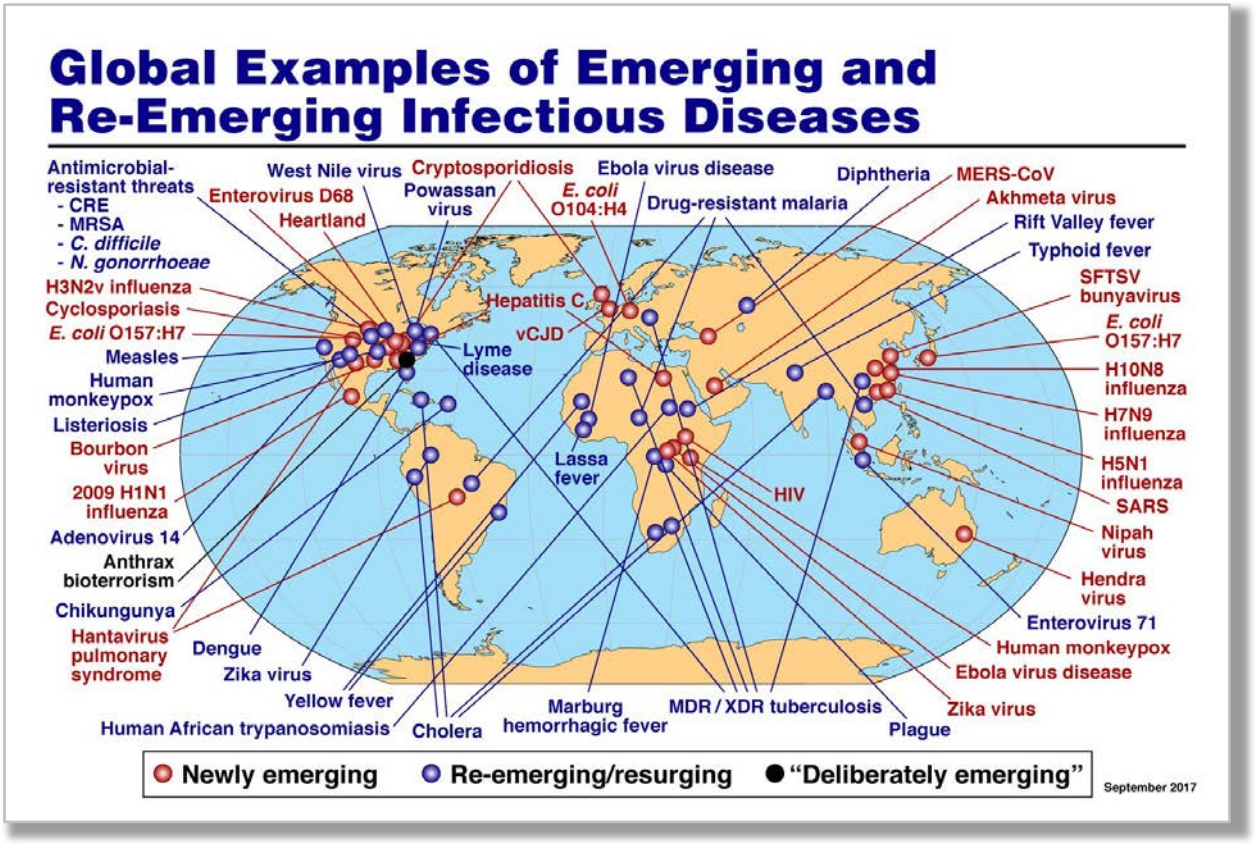
Ricerca COVID negli Istituti di Bellinzona

Ricerca di base
= ricerca per capire

Ricerca applicata
= ricerca per curare

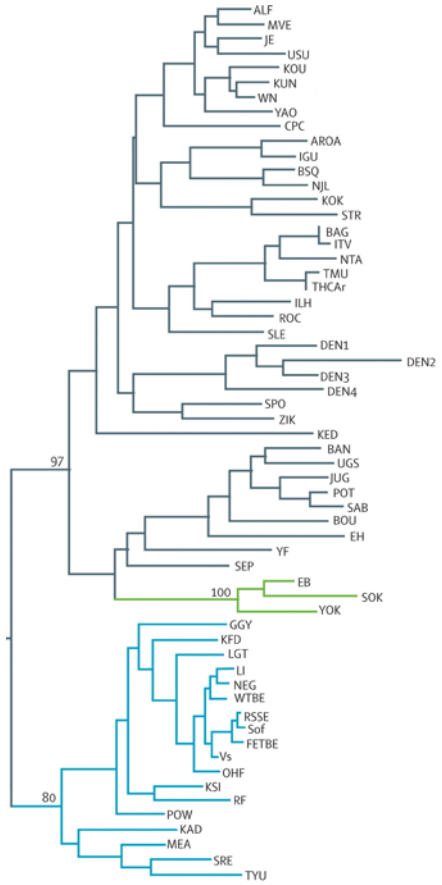


Guardando avanti: minacce attuali e future



Source: NIH/NIAID

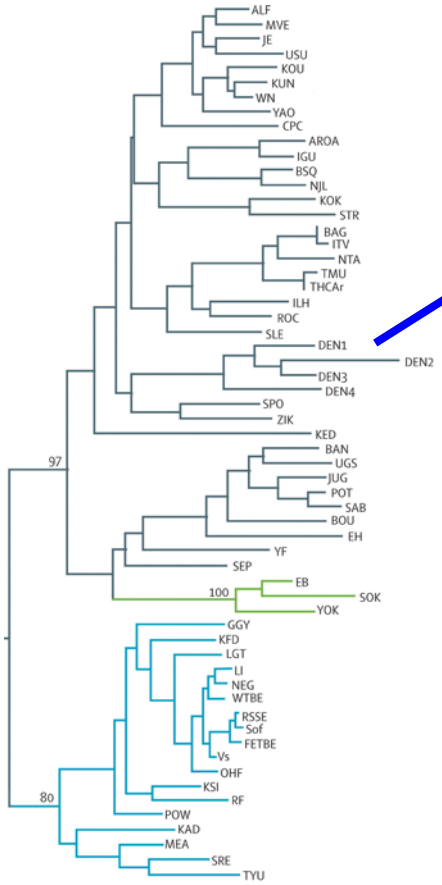
Esempio di minaccia: i 31 Flavivirus



Gould et al, The Lancet 2008

- emorragie
- encefaliti
- malattie congenite
- letale

Esempio di minaccia: i 31 Flavivirus



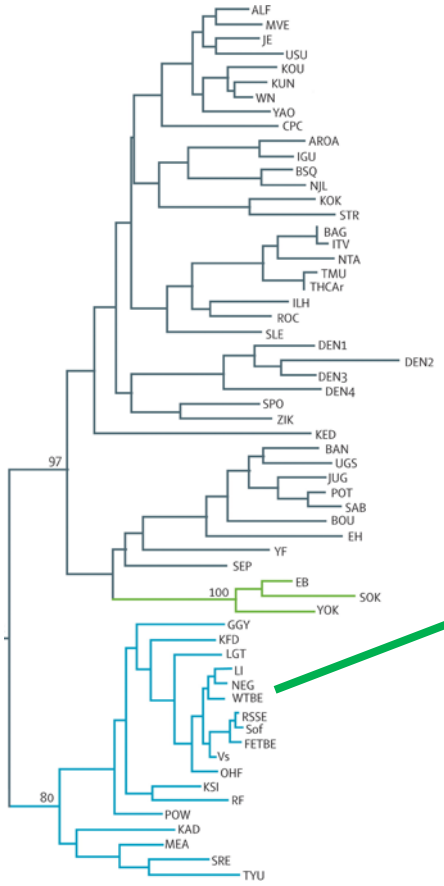
Dengue

- 4 mia persone esposte
- 490 mio di infezioni
- 2.5 mio severe

Source: WHO

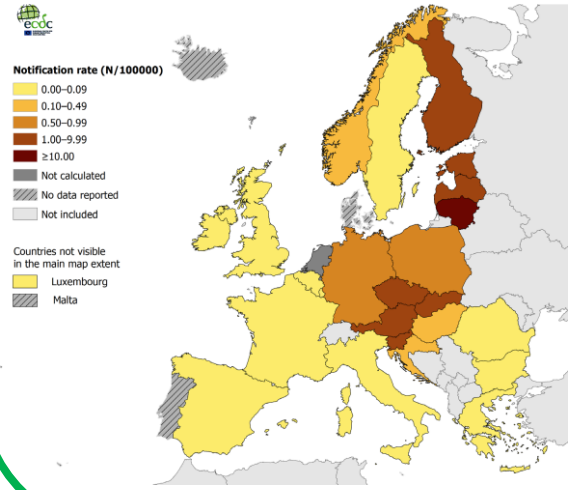
Aedes mosquitoes

Esempio di minaccia: i 31 Flavivirus



Encefalite da zecca

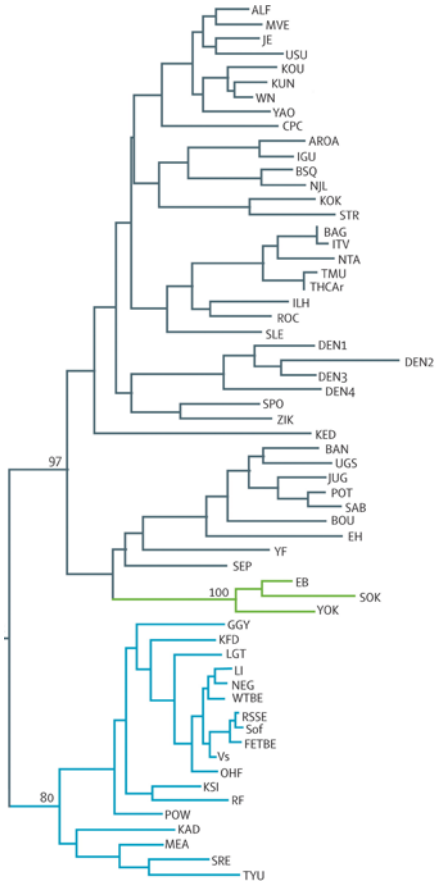
- >15,000
- anche in CH



Source: ECDC

Ixodes ticks

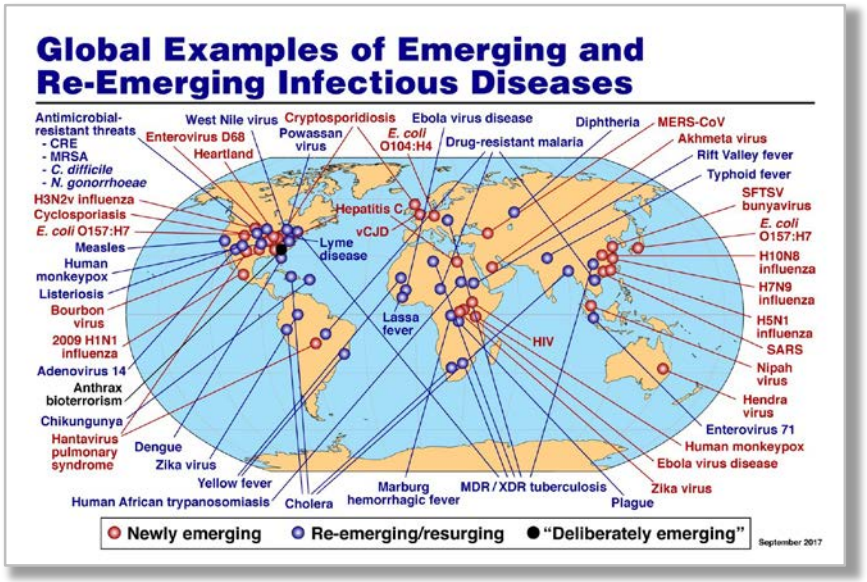
Esempio di minaccia: i 31 Flavivirus



Gould et al, The Lancet 2008

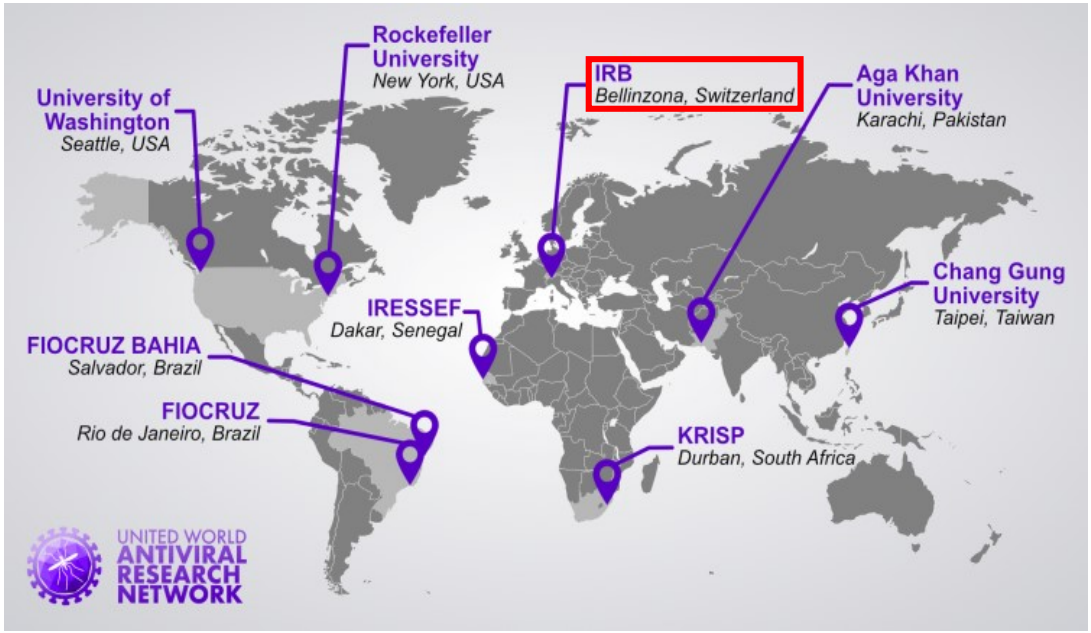
- 31 Flavivirus, ma solo contro 4 esistono vaccini
- Nessuna terapia specifica

Guardando avanti: anticipare la prossime epidemie



Imperativo prepararsi, poiché la prossima ‘malattia X’ potrebbe apparire in qualsiasi momento.

Un problema da affrontare insieme



Sostegno da fondi di ricerca competitivi (nazionali e internazionali),

E da parte di privati, famiglie, e Fondazioni.

Thank you!