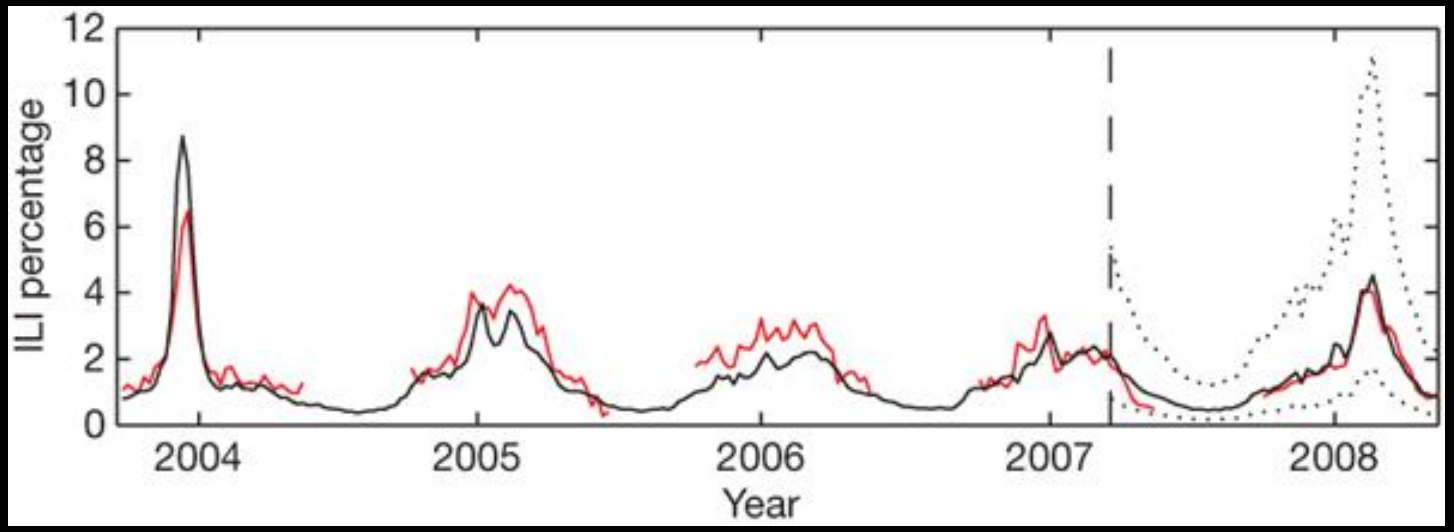
La sorveglianza dell'influenza attraverso fonti di dati alternative

Francesco Gesualdo
f.gesualdo@gmail.com

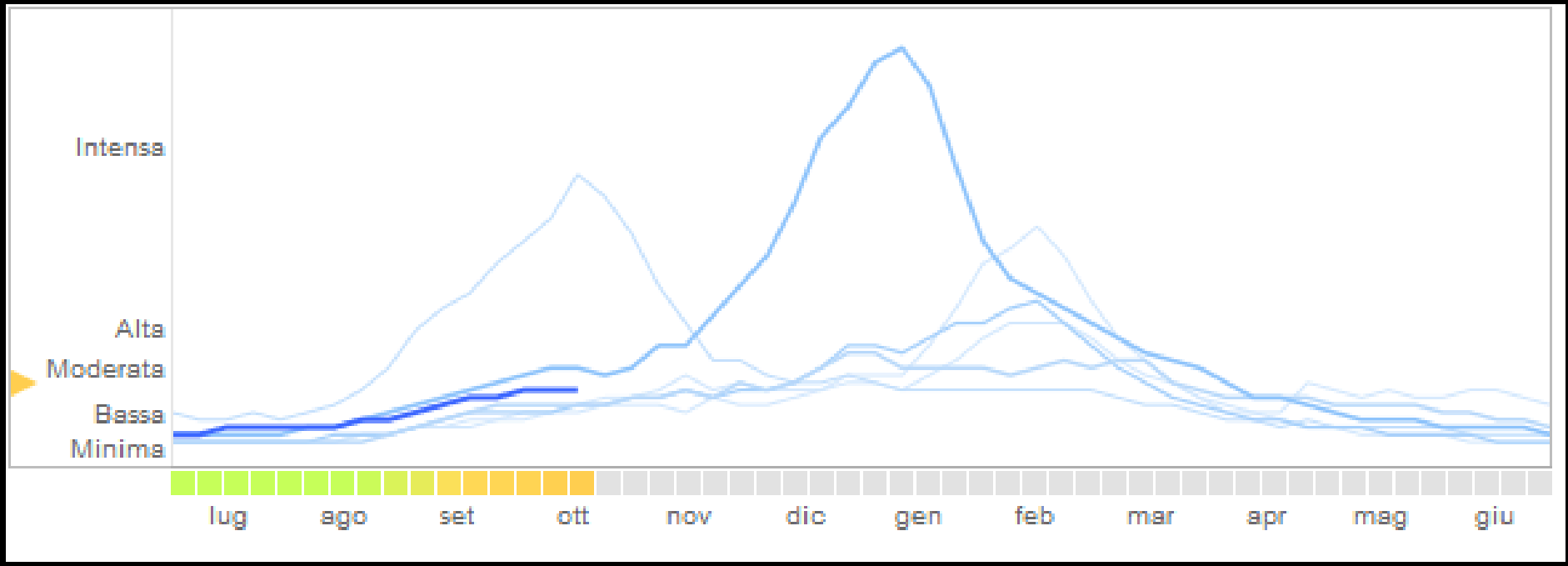
demand-based

Google

correlazione
query su influenza – dati CDC



Google™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January 9, 2013 7:20 PM

National flu outbreak widens

comments 44 Like 5.8k Tweet 100K+ +1 60 Share 10 More +

By **Jonathan LaPook**

FROM CBS NEWS

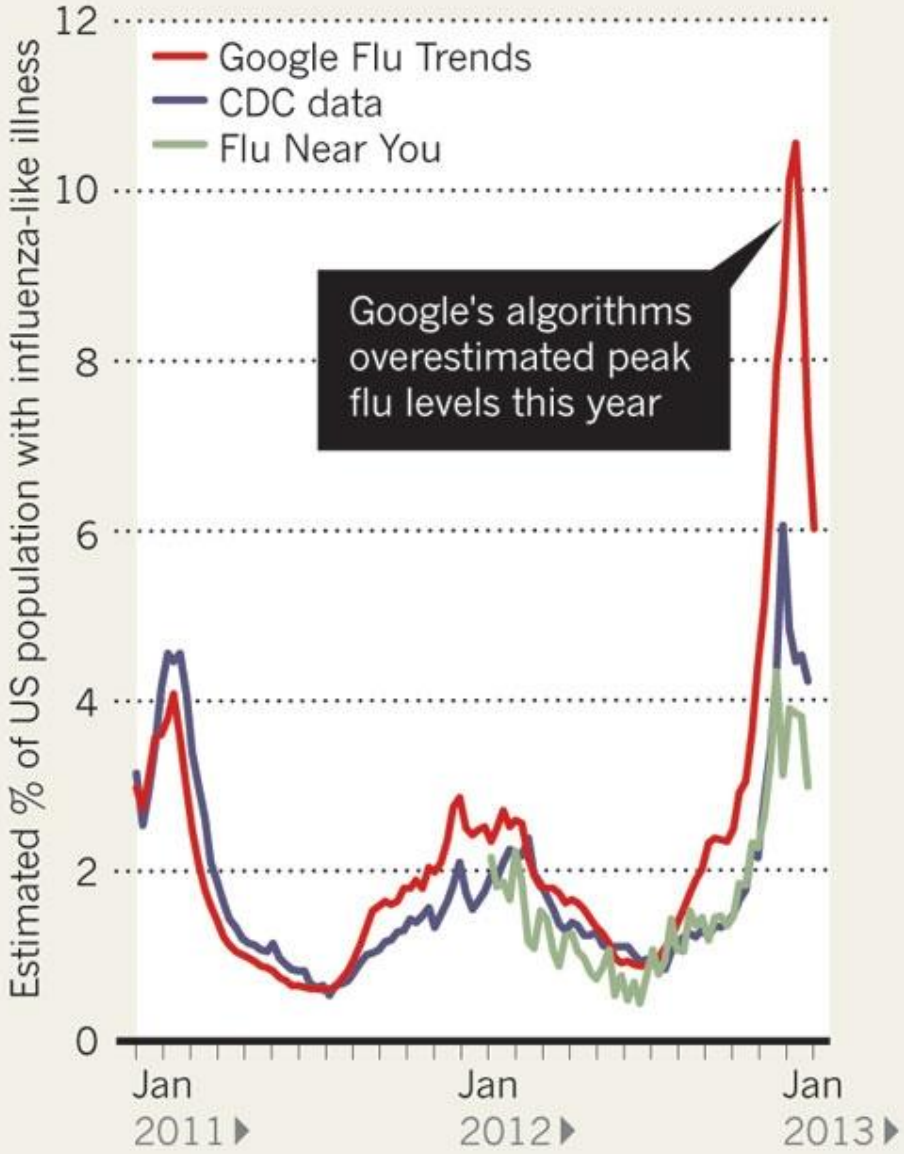
FDA recommends reclassifying Vicodin as harder drug

HealthCare.gov architects: Govt's pre-launch testing insufficient

Ringo Starr's book "Photograph" recalls a magical mystery tour

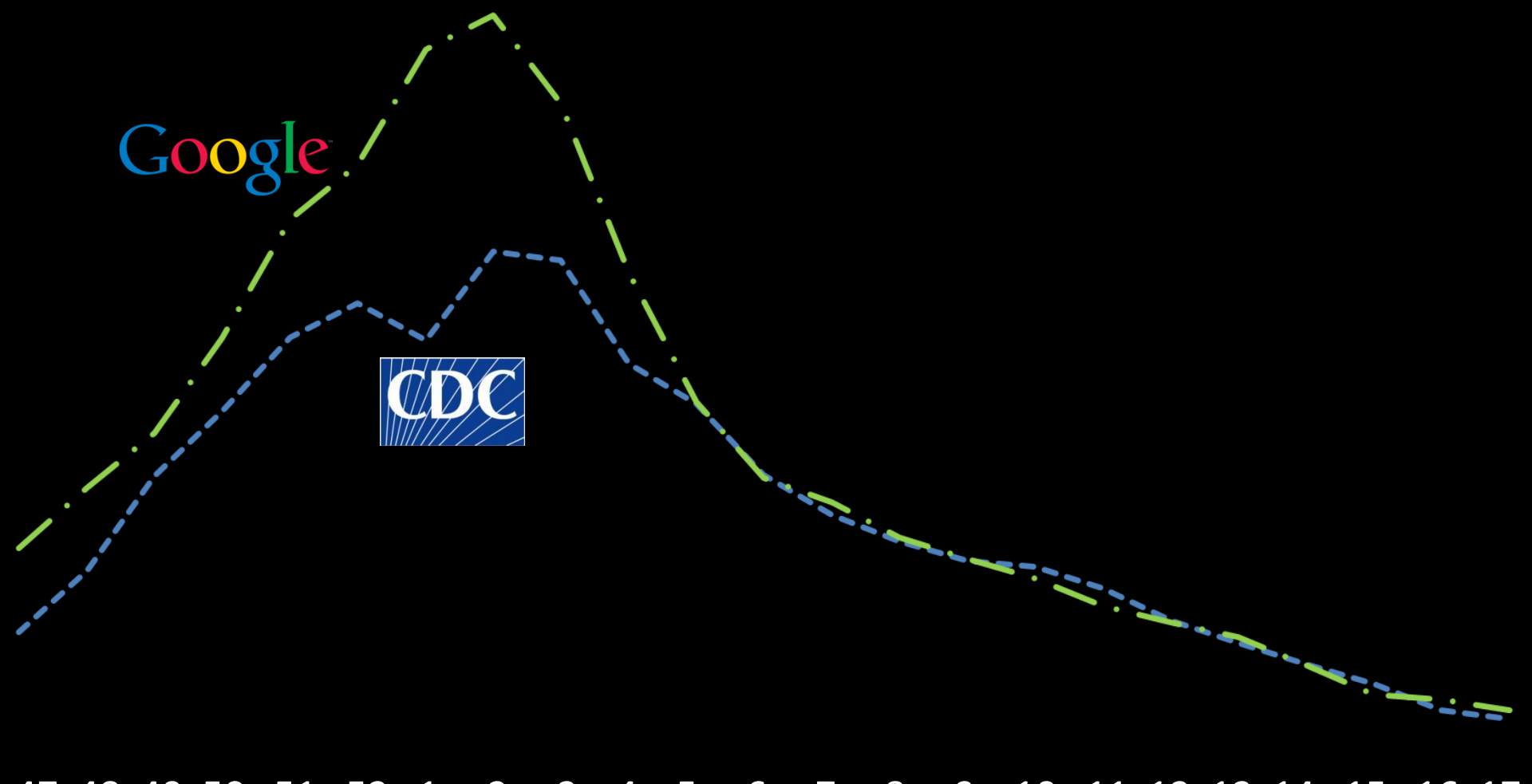
FEVER PEAKS

A comparison of three different methods of measuring the proportion of the US population with an influenza-like illness.



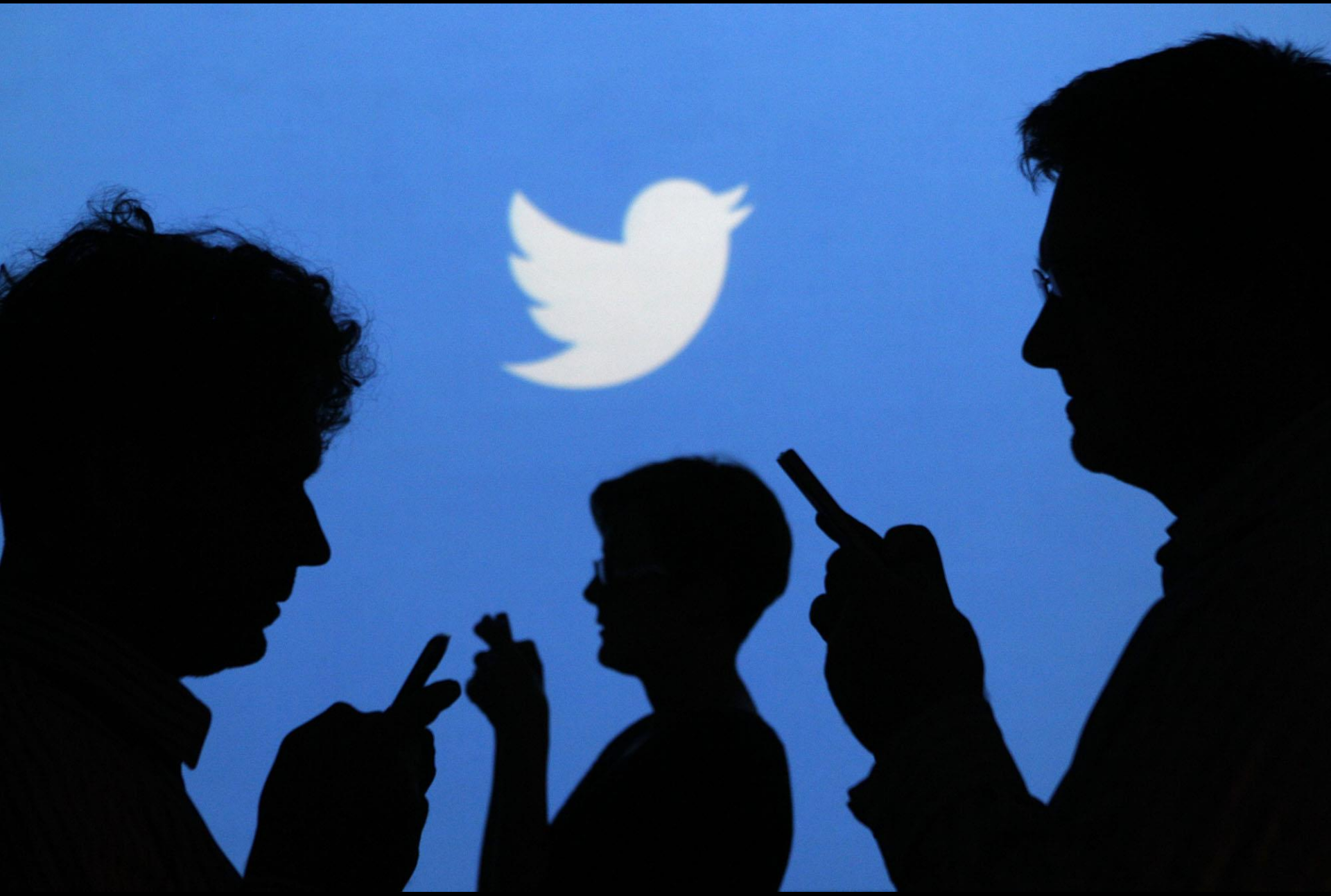
Google Flutrends ha sovrastimato

il trend influenzale reale



supply-based

facebook
December 2010



HalloweenSuxxx
@hewbz

Segui

My doctor is so nice. She always makes me feel like everything is going to be ok. By the way I got the flu

Pete G

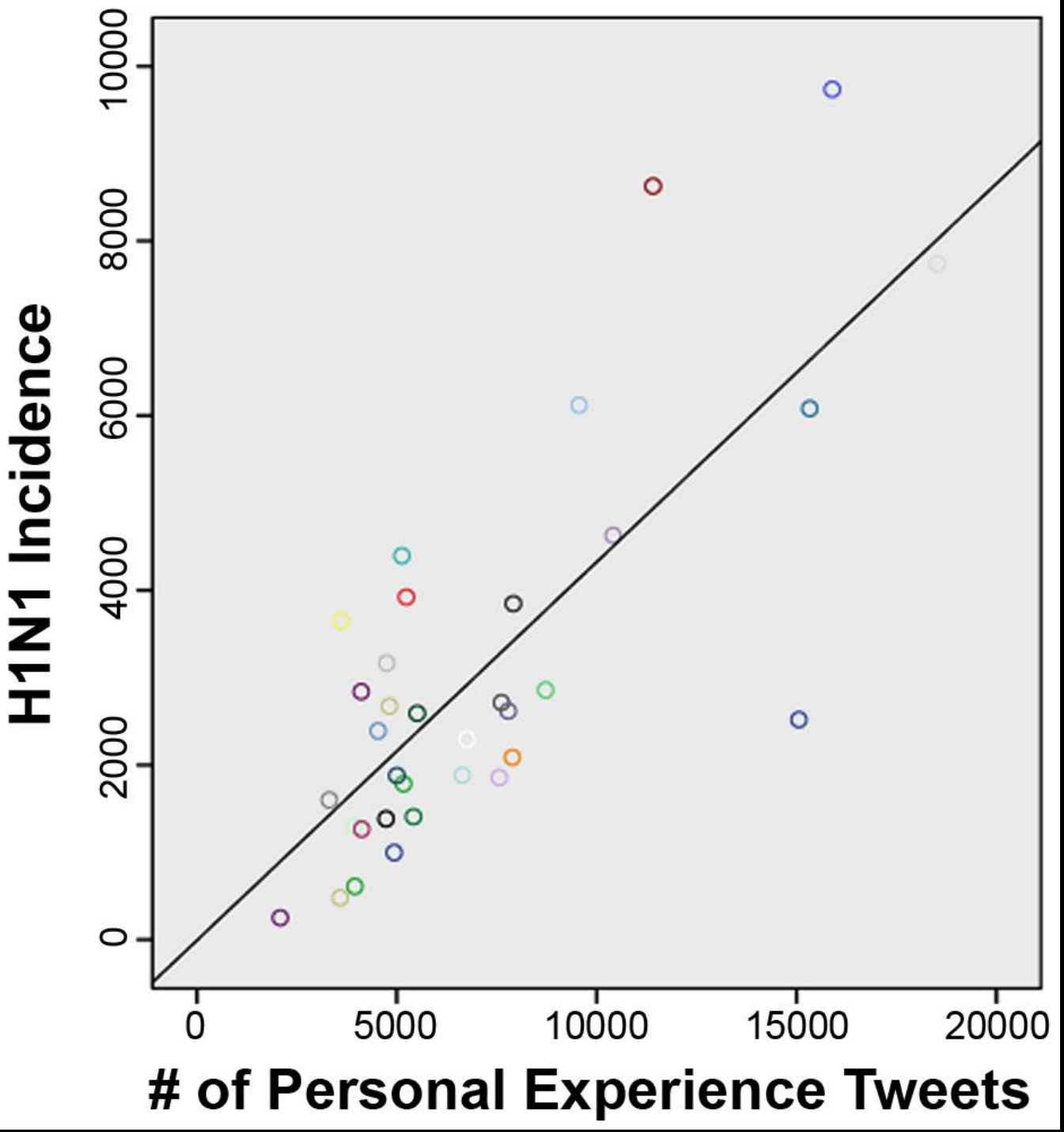
@TheRealPeteG

Segui

Think I got the flu. Hate this. These body aches are no joke□

Visualizza traduzione

Risposta Retweet Aggiungi ai preferiti Altro

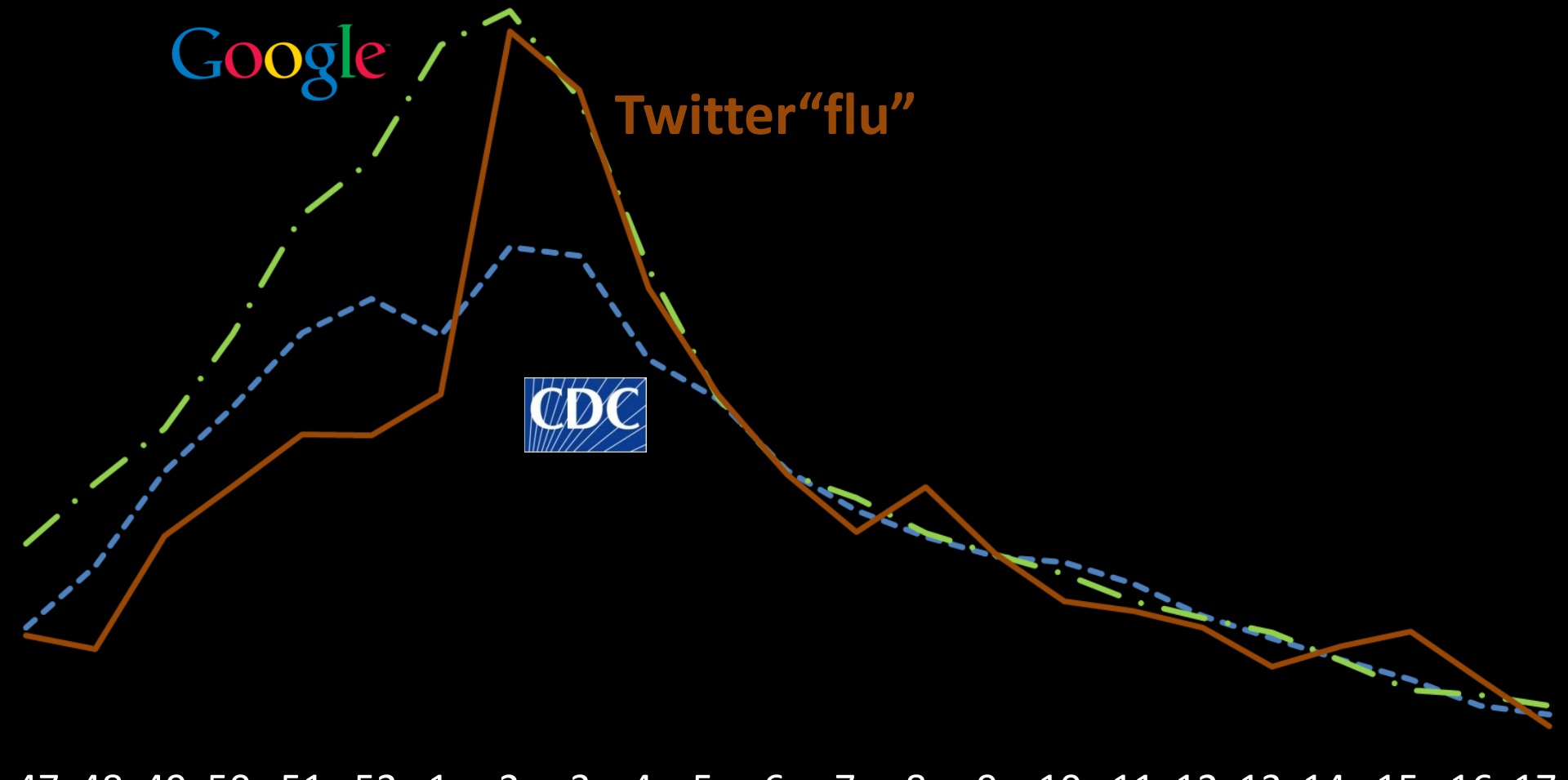

H1N1 Incidence
0
2000
4000
6000
8000
10000
0
5000
10000
15000
20000
# of Personal Experience Tweets

Dr. Arizona Robbins
@AZRobbinsGSM

Segui

Keep your kids flu-free this year. Get a flu shot, maintain a healthy diet, and remind them to wash hands regularly.

anche “flu” OR “influenza” su Twitter sovrastimano il trend influenzale



Influenza-like illness (ILI)

– Sudden onset of symptoms

AND

– At least one of the following four systemic symptoms:
– Fever or feverishness
– Malaise
– Headache
– Myalgia

AND

– At least one of the following three respiratory symptoms:
– Cough
– Sore throat
– Shortness of breath

((fever)OR(feverishness)OR(malaise)OR(headache)OR(myalgia))AND((cough)OR(pharyngitis)OR(dyspnea))

Tim Clagg
@TimClagg87

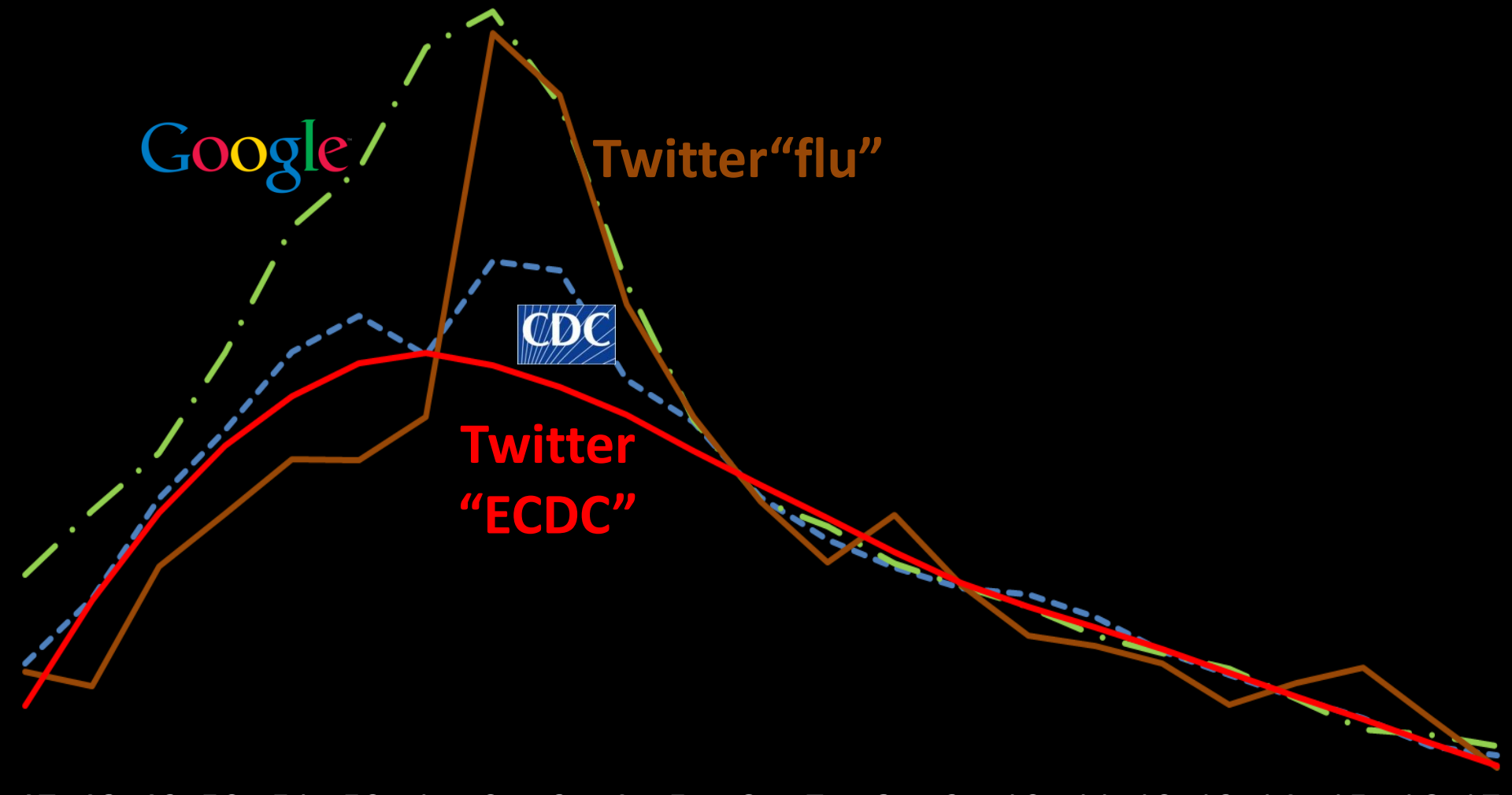
Segui

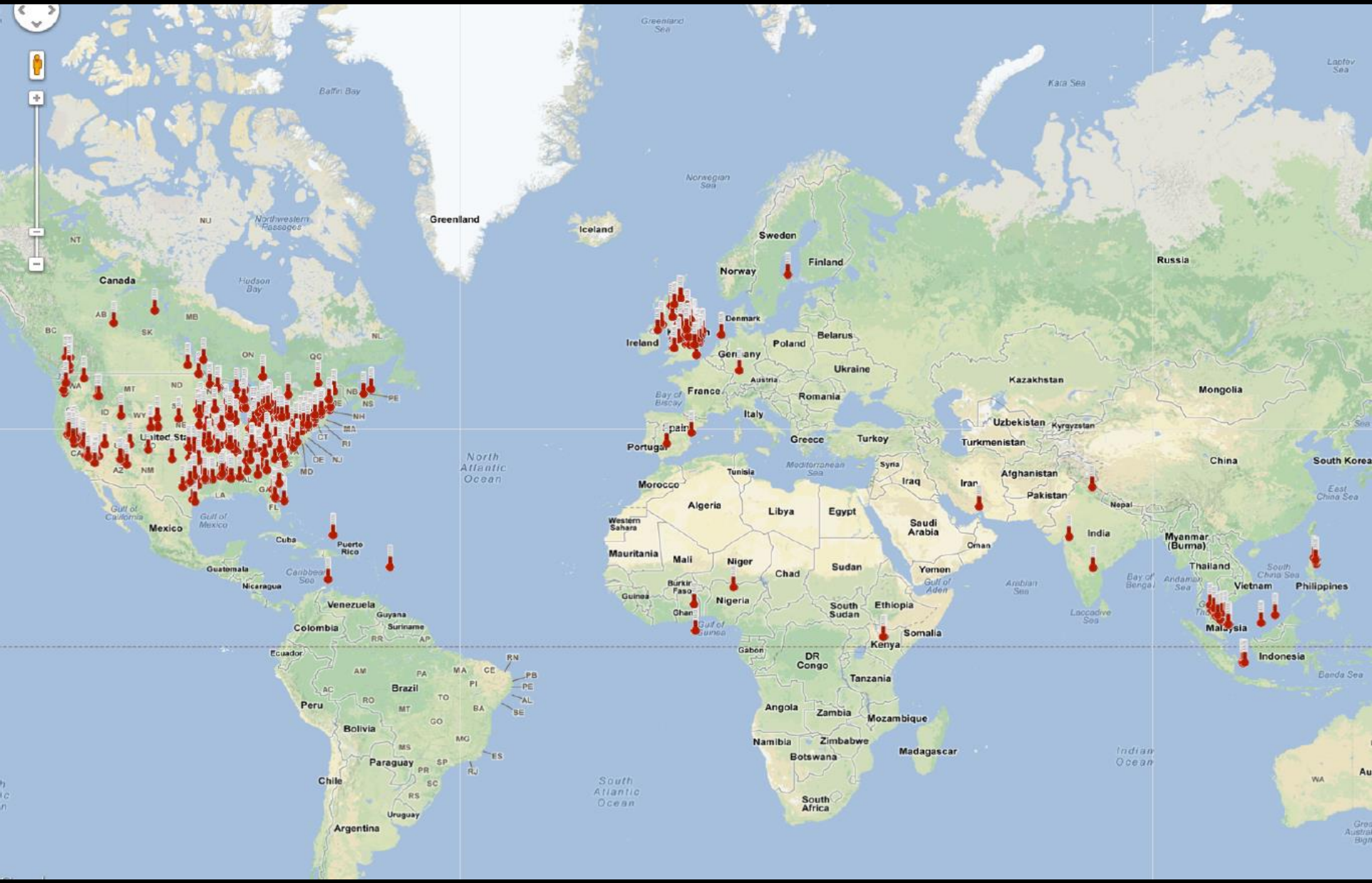
Think I might be getting sick. Body starting to ache and cough like crazy. Ain't nobody got time for that. Need to get my flu shot.

TT	NT	pattern	examples
dyspnea	difficult breathing	is the medical term for	dyspnea <is the medical term for> difficult breathing <or> shortness of breath
		is the technical word for	dyspnea <is the technical word for> difficult breathing
	shortness of breath	or	dyspnea <is the medical term for> difficult breathing <or> shortness of breath
		is another name for	dyspnea <is another name for> shortness of breath or breathlessness , and is often a symptom of cardiac problems
		(	dyspnea <(> shortness of breath) can be caused by many conditions , including asthma and cardiomyopathy
	troubled breathing	, a medical word for	dyspnea <, a medical word for> troubled breathing is a common symptom produced due to lung and heart problems
	breathlessness	or	dyspnea <is another name for> shortness of breath <or> breathlessness , and is often a symptom of cardiac problems

correlazione dati CDC – twitter ILI

0.97




Greenland Sea
Baffin Bay
Kara Sea
Laptev Sea
Northwestern Passages
Greenland
Iceland
Norwegian Sea
Sweden
Finland
Russia
Canada
Hudson Bay
Norway
Denmark
Ireland
Poland
Belarus
Ukraine
Kazakhstan
Mongolia
France
Romania
Italy
Uzbekistan
Kyrgyzstan
Turkmenistan
Portugal
Greece
Turkey
Bay of Biscay
North Atlantic Ocean
Mediterranean Sea
Syria
Iraq
Iran
Afghanistan
Pakistan
China
South Korea
East China Sea
Tunisia
Morocco
Algeria
Libya
Egypt
Saudi Arabia
Nepal
India
Western Sahara
Oman
Myanmar (Burma)
Mauritania
Mali
Niger
Chad
Sudan
Yemen
Thailand
Vietnam
Philippines
Gulf of California
Gulf of Mexico
Mexico
Cuba
Puerto Rico
Caribbean Sea
Guatemala
Nicaragua
Burkina Faso
Guinea
Nigeria
Ghana
Gulf of Guinea
Gulf of Aden
Arabian Sea
Bay of Bengal
Andaman Sea
South China Sea
Laccadive Sea
South Sudan
Ethiopia
Somalia
Kenya
Malaysia
Indonesia
Gabon
DR Congo
Tanzania
Venezuela
Guyana
Suriname
Colombia
Ecuador
Peru
Brazil
Bolivia
Paraguay
Chile
Argentina
Uruguay
Angola
Zambia
Mozambique
Namibia
Zimbabwe
Botswana
Madagascar
South Africa
Indian Ocean
South Atlantic Ocean
Banda Sea
Arafura Sea

NiCat
@_Nishatt

Segui

Allergy season, it's time for puffy dry eyes, runny nose, itchy throat and constant sneeze #wouhouuu #welcomespring2015 be nice this year 😒

Visualizza traduzione

Montréal, Québec

1

08:41 - 20 mar 2015

Ankylosing Answers
@AnkylosingOrg

Segui

I only just started on Enbrel a month ago and I have a throat infection and it's not going away.
#spondylitis

Visualizza traduzione

Risposta Retweet Aggiungi ai preferiti Altro

3:32 PM - 11 Gen 11

PLUS

tempestività

big data

dati dagli utenti

MINUS

denominatori

sensibilità/specificità

big data
(hardware, costi)

INTEGRAZIONE