

 What if a choice made over the counter prevented...

 19,000 Deaths/Heart Attacks
Or
Thousands of Bleeds
Annually in the United States


 Adaptable
The Aspirin Study 45

 PATIENT-CENTERED OUTCOMES RESEARCH INSTITUTE

 pcornet

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1 in 20
Google searches
are health
related

 Google

46


Google

Information structure

Measles

Also called: rubella

ABOUT SYMPTOMS TREATMENTS



A viral infection that's serious for small children but is easily preventable by a vaccine.

Measles

Also called: rubella

ABOUT SYMPTOMS TREATMENTS

Requires a medical diagnosis
Measles symptoms don't appear until 10 to 14 days after exposure. They include cough, runny nose, inflamed eyes, sore throat, fever, and a red, blotchy skin rash.

People may experience:
Pain areas: in the muscles
Whole body: fever, malaise, fatigue, or loss of appetite

Measles

Also called: rubella



ABOUT SYMPTOMS TREATMENTS

Treatment consists of preventative measures
There's no treatment to get rid of an established measles infection, but over-the-counter fever reducers or vitamin A may help with symptoms.

Preventative
MMR vaccine

Medications

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WHY DEPRESSION?

DEPRESSION IS HIGHLY PREVALENT

300M

people suffer from depression globally, WHO has declared it a leading cause of disability [\[WHO\]](#)

MANY PEOPLE DON'T GET TREATMENT

50%

of people with depression in the US did not get any treatment [\[JAMA\]](#)

TREATMENT IS OFTEN DELAYED

7 YRS

average time from onset to treatment in the US [\[JAMA\]](#)

TREATMENT IS EFFECTIVE

70%

of patients can improve, often in a matter of weeks [\[NIMH\]](#)

Google has the reach, scale and technology to help

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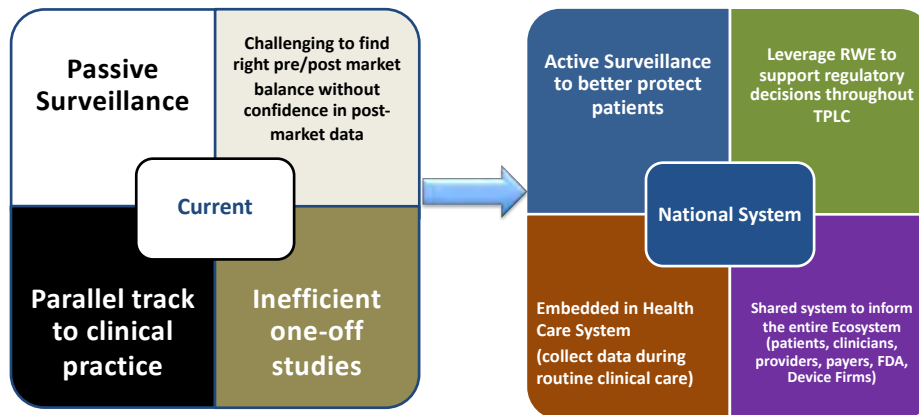
PRODUCT OVERVIEW: What is PHQ-9?

PHQ-9 is a Patient Health Questionnaire, with 9 questions, that is used to measure depression severity

PATIENT HEALTH QUESTIONNAIRE - 9				
Over the last 2 weeks, how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

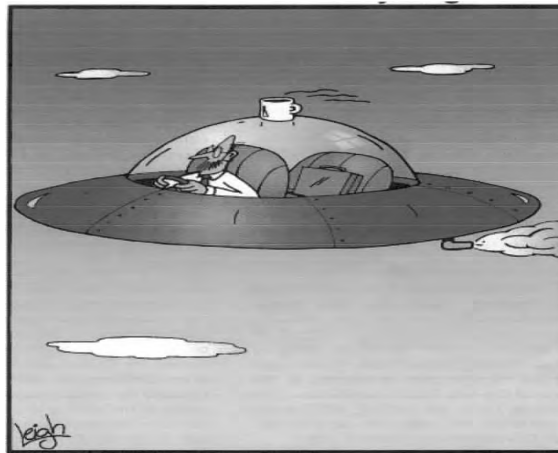
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National System Paradigm Shift



www.fda.gov

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Technology advances; people stay the same.

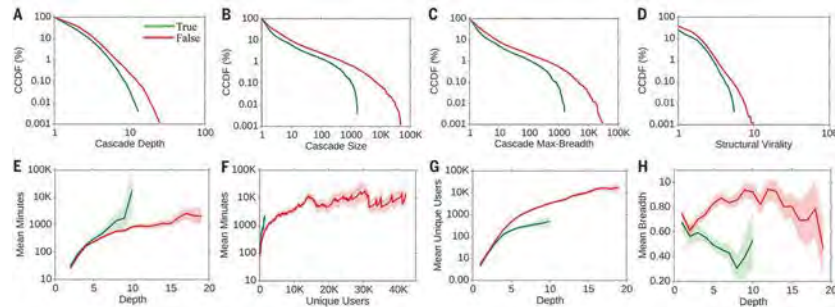
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Krista Kennell / Stone / Catwalker / Shutterstock / The Atlantic
<https://www.theatlantic.com/technology/archive/2018/03/largest-study-ever-fake-news-mit-twitter/555104/>

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Complementary cumulative distribution functions (CCDFs) of true and false rumor cascades

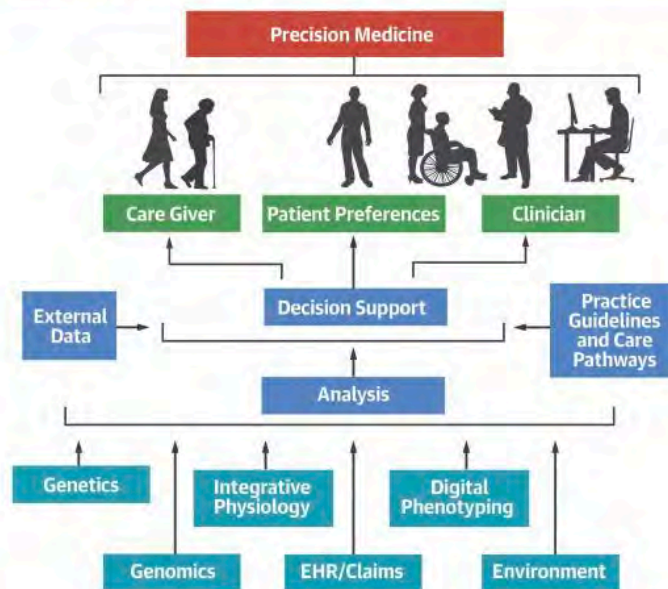


Vosoughi S, et al. Science. 2018;359:1146-51.

Science
AAAS

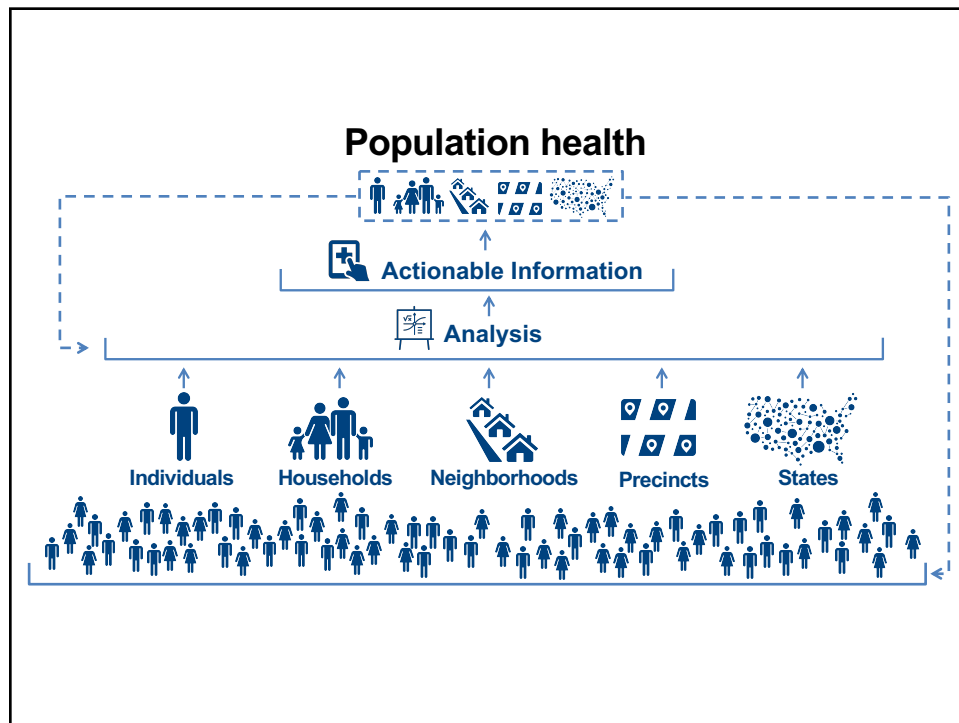
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CENTRAL ILLUSTRATION: Precision Medicine












Califf, R.M. J Am Coll Cardiol. 2018;72(25):3301-9.

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History of Digital Disruption					
Company /Industry	Core Business	Transformational Change	Digital Disruption Enhance Existing Income Model?	Successful Internal Transformation?	Digital Disrupter
	Photographic Film & Paper	Digital Photography	NO	X	
	Selling Books from Stores	Online Book Orders	NO	X	
	Lending Money	ATMs and Online Banking	YES	✓	All Modern Banks
	Video Rental	Digital Streaming	NO	X	
	Fee-for-Service Health Care	Value-based, Digitally Enabled Medicine	NO	?	?
	Sell more drugs at higher prices	Value based reimbursement	NO	?	?

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