Moderator

Louisa Jorm, PhD
University of New South Wales
(UNSW)
Sydney, Australia

Second Plenary Session

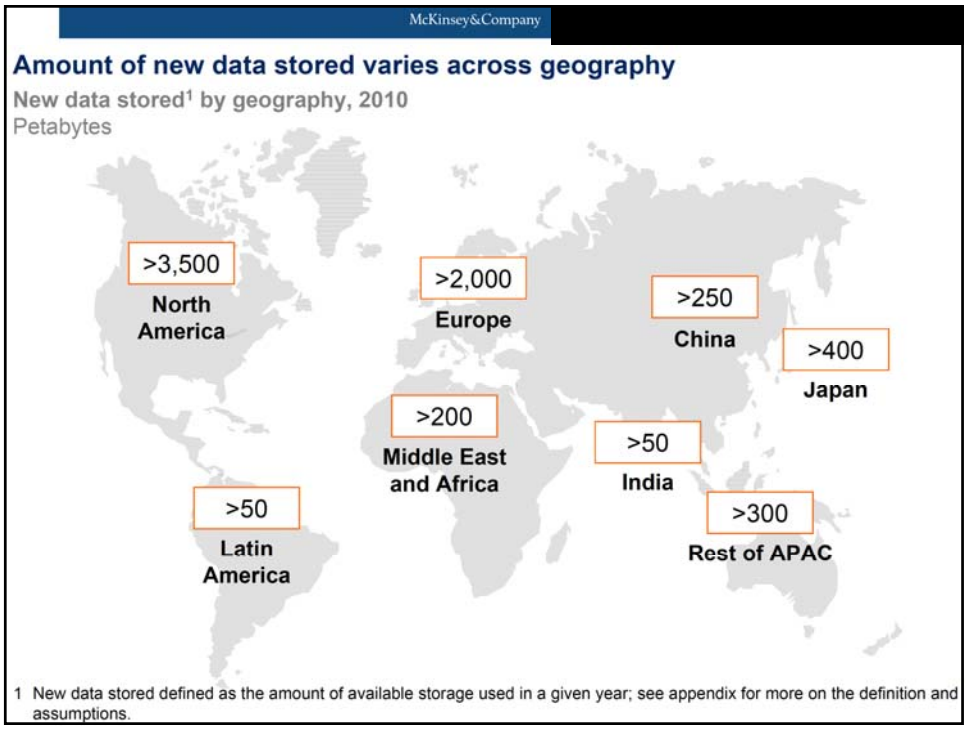
Harnessing the Power of Big Data
to Make Better Health Care Decisions in the Asia-Pacific Region

Christopher Chute, MD, DrPH
Bloomberg Distinguished Professor of Health Informatics, Professor of Medicine, Public Health, and Nursing
Chief Health Research Information Officer, Johns Hopkins Medicine
Johns Hopkins University
Baltimore, MD, USA

Trish Williams, PhD
Professor & Chair of Digital Health Technologies
Flinders University
Adelaide, Australia

Yoke Sin Chong, PhD
Chief Executive Officer
Integrated Health Information Systems Pte Ltd
Singapore


Big data in Asia-Pacific health care
Louisa Jorm 5 September 2016
UNSW AUSTRALIA
Never Stand Still
Medicine
Centre for Big Data Research in Health
CENTRE FOR BIG DATA RESEARCH IN HEALTH


McKinsey&Company
Amount of new data stored varies across geography
New data stored[1] by geography, 2010
Petabytes
>3,500
North America
>2,000
Europe
>250
China
>400
Japan
>200
Middle East and Africa
>50
India
>50
Latin America
>300
Rest of APAC
1 New data stored defined as the amount of available storage used in a given year; see appendix for more on the definition and assumptions.

The Economist Intelligence Unit

The hype and the hope

The road to big data adoption

A report from The Economist Intelligence Unit

Figure 1

Geographical location of survey respondents

(% respondents)

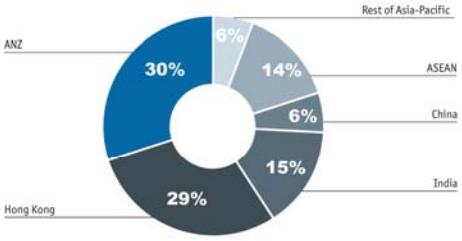


Figure 2

Industry split of survey respondents

(% respondents)

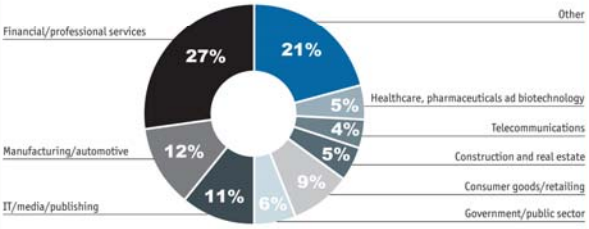


Figure 10

Trailing in big

(% respondents)

Haven't made mu
haven't started

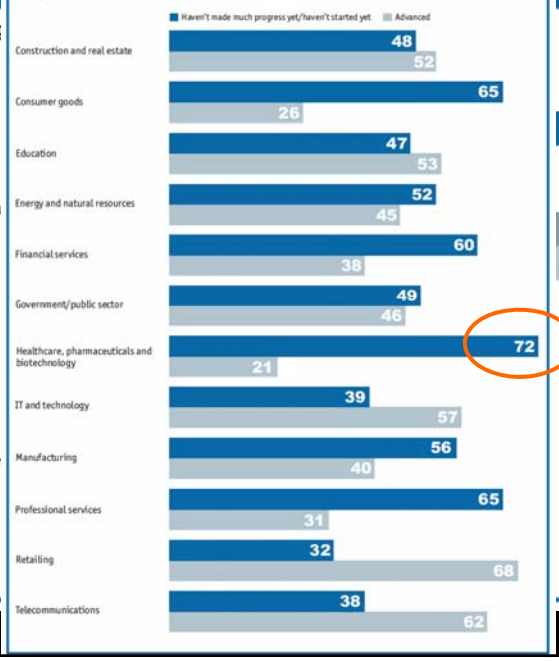
My company has r

74.5

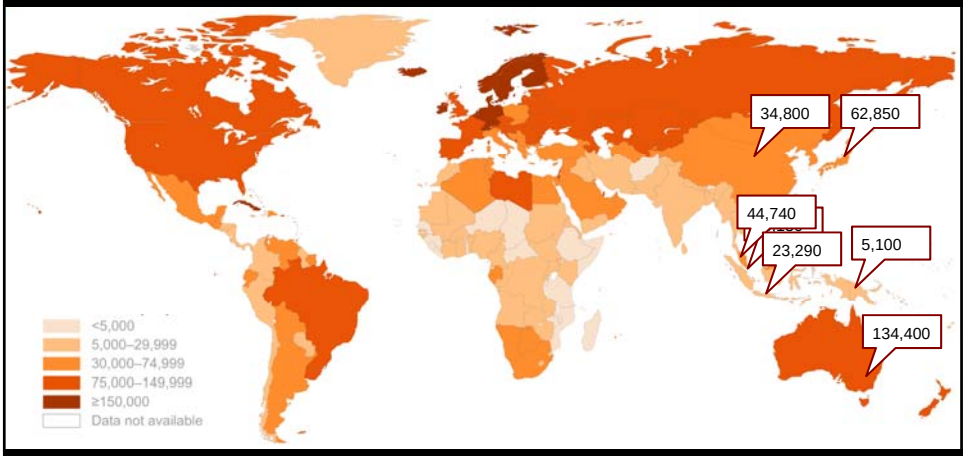
Figure 11

Many industries trail in big data adoption

(% respondents)

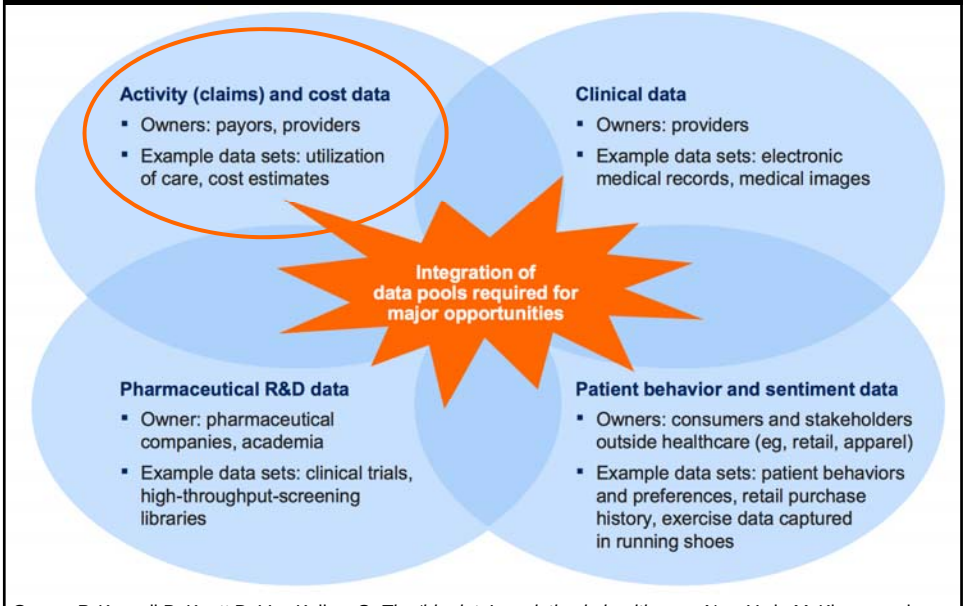


Doctors, Nurses, and Midwives per 10 Million Population, 2011.



Crisp N, Chen L. N Engl J Med 2014;370:950-957

The NEW ENGLAND JOURNAL of MEDICINE



Groves P, Kayyali B, Knott D, Van Kuiken S. *The 'big data' revolution in health care*. New York: McKinsey and Company Center for US Health System Reform, 2013.

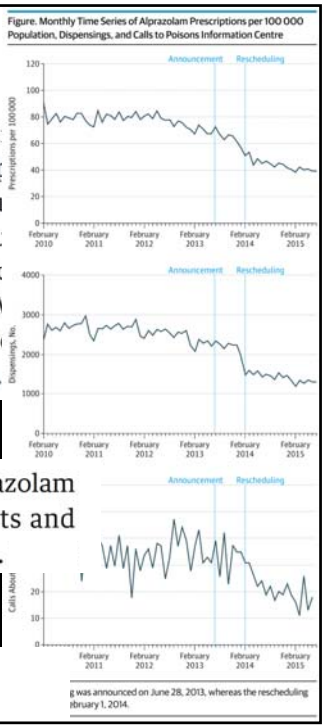
Interrupted Time Series Analysis of the Effect of Rescheduling Alprazolam in Australia: Taking Control of Prescription Drug Use

Alprazolam is significantly more toxic, has no addit
therapeutic benefit, and is increasingly misused comp
with other benzodiazepines.[1-3] Due to concerns abou
increasing use of alprazolam, in February 2014, the Au
lian Therapeutic Goods Administration selectively resc
uled alprazolam from Schedule 4 (Prescription Only M
cine) of the Poisons Standard to Schedule 8 (Contr
Drug), equivalent to Schedule II in the United States.

[redacted]

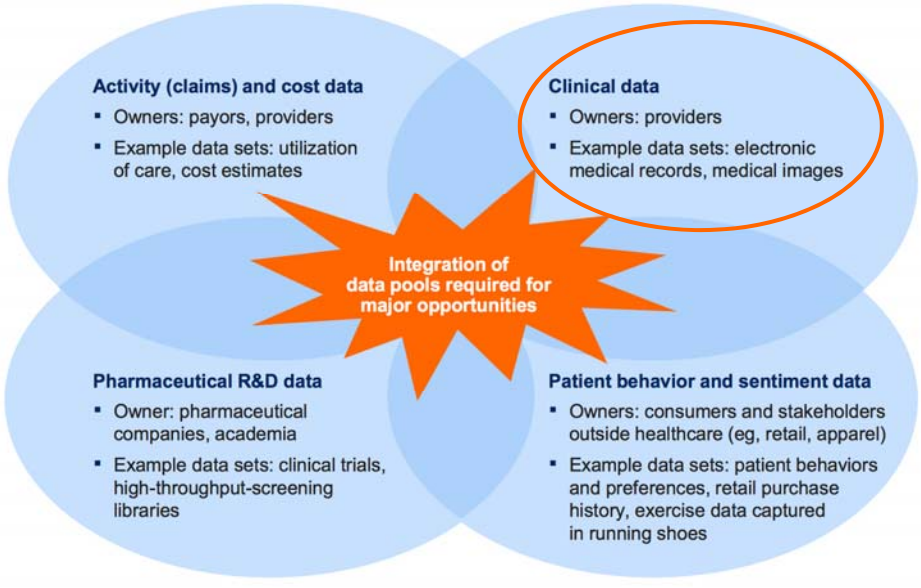
Discussion | In Australia, selectively rescheduling alprazolam led to a reduction in overall use and adverse events and increased switching to less toxic benzodiazepines.

[redacted]



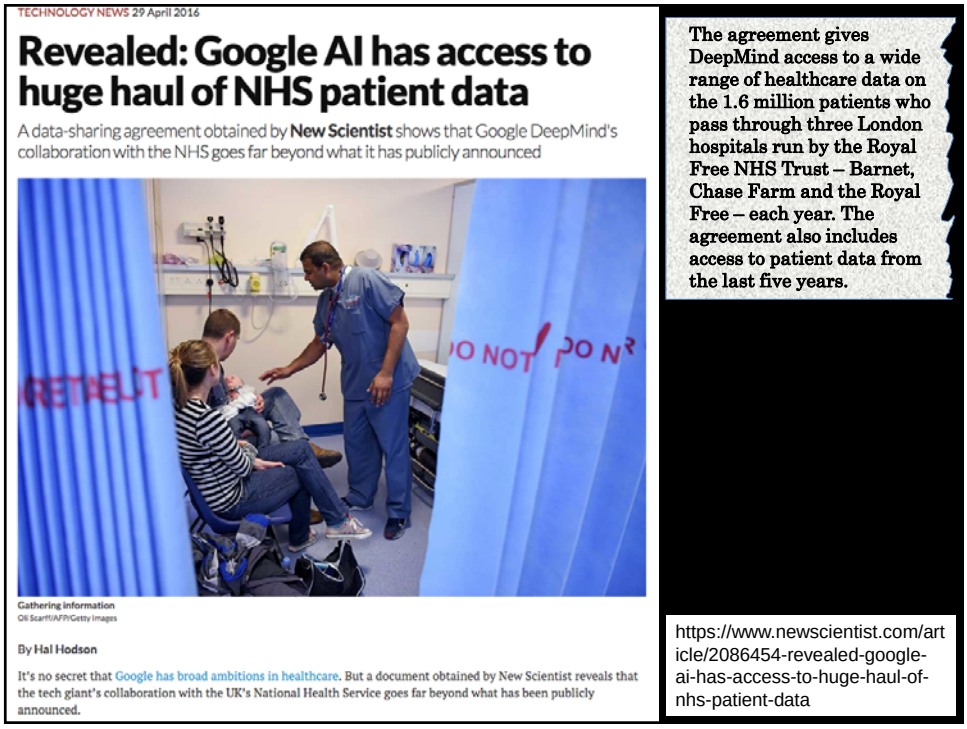
Schaffer AL, *Buckley NL, Cairns R, Pearson S.*
JAMA Intern Med. Published online July 05, 2016.
doi:10.1001/jamainternmed.2016.2992

[redacted]



Groves P, Kayyali B, Knott D, Van Kuiken S. *The 'big data' revolution in health care*. New York: McKinsey and Company Center for US Health System Reform, 2013.

http://www.registerforshare.org/index.php



TECHNOLOGY NEWS 29 April 2016

Revealed: Google AI has access to huge haul of NHS patient data

A data-sharing agreement obtained by **New Scientist** shows that Google DeepMind's collaboration with the NHS goes far beyond what it has publicly announced

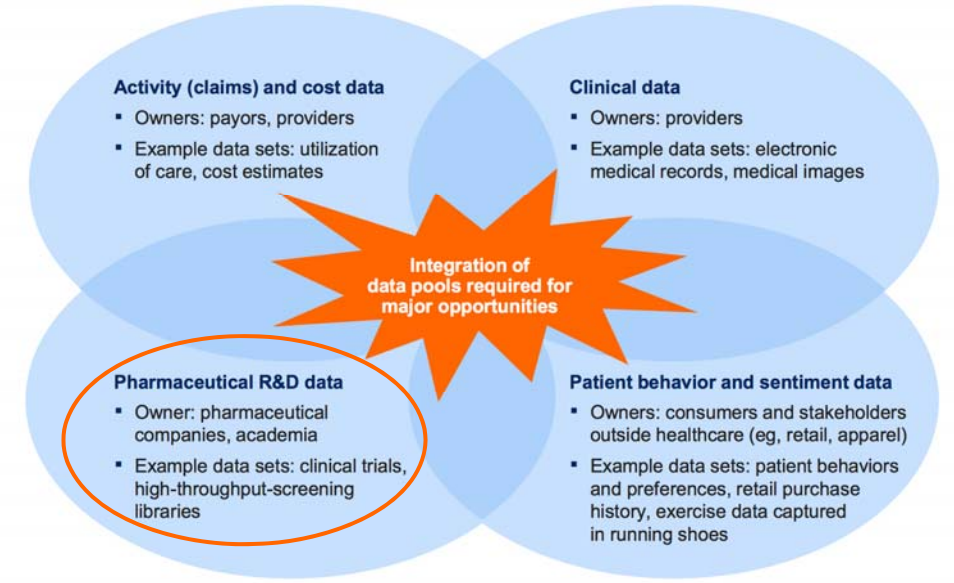
Gathering information
Oli Scarff/AFP/Getty Images

By Hal Hodson

It's no secret that Google has broad ambitions in healthcare. But a document obtained by New Scientist reveals that the tech giant's collaboration with the UK's National Health Service goes far beyond what has been publicly announced.

The agreement gives DeepMind access to a wide range of healthcare data on the 1.6 million patients who pass through three London hospitals run by the Royal Free NHS Trust – Barnet, Chase Farm and the Royal Free – each year. The agreement also includes access to patient data from the last five years.

https://www.newscientist.com/article/2086454-revealed-google-ai-has-access-to-huge-haul-of-nhs-patient-data



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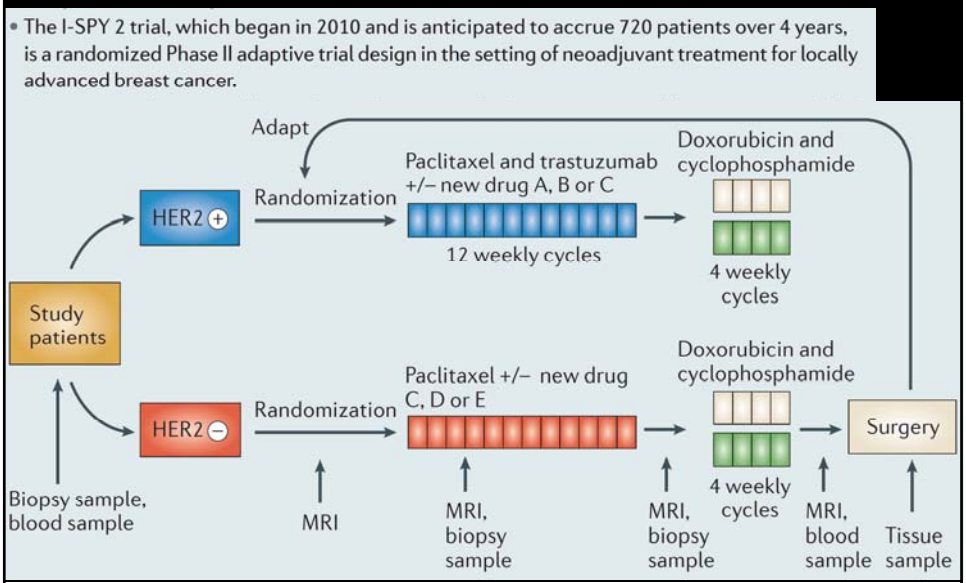
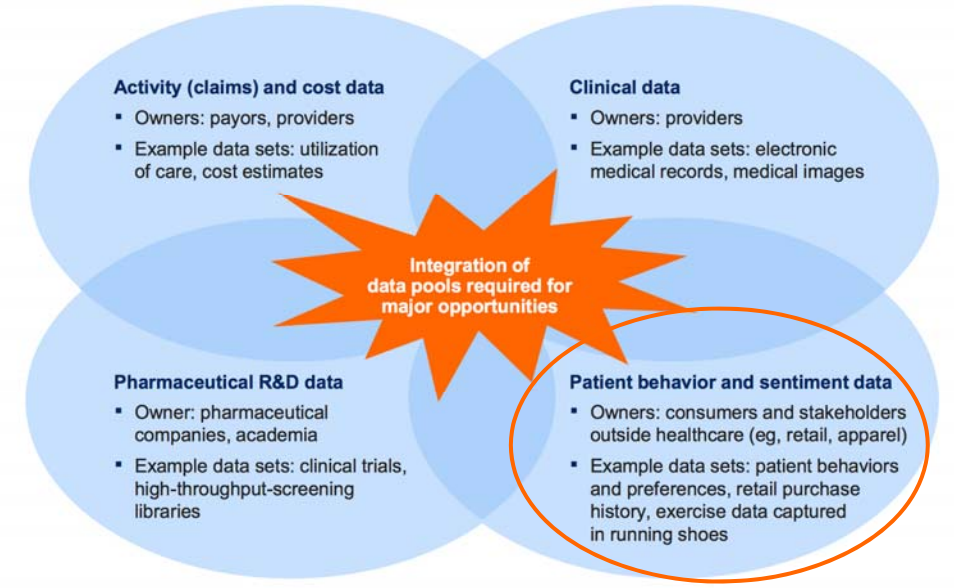
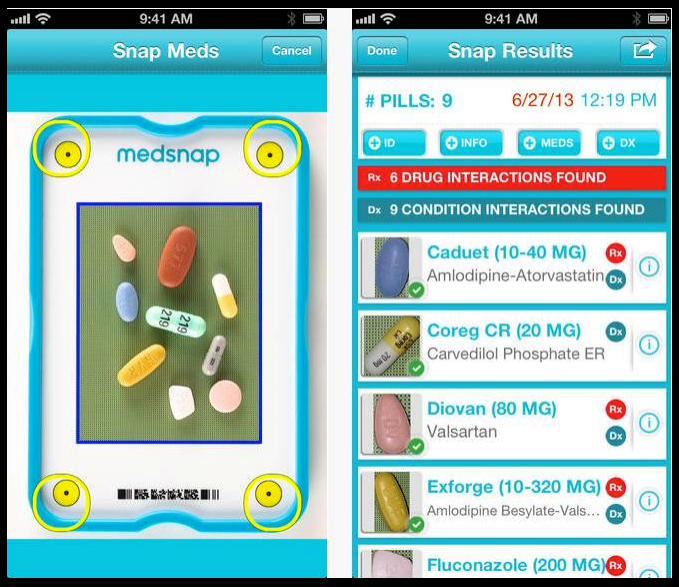


Kelloff GJ, Sigman CC. Cancer biomarkers: selecting the right drug for the right patient. *Nature Reviews Drug Discovery* 11, 201-214 (March 2012) doi:10.1038/nrd3651



Groves P, Kayyali B, Knott D, Van Kuiken S. *The 'big data' revolution in health care*. New York: McKinsey and Company Center for US Health System Reform, 2013.



https://medsnap.com/

At e-commerce site operator Etsy Inc., a biostatistics Ph.D. who spent years mining medical records for early signs of breast cancer now writes statistical models to figure out the terms people use when they search Etsy for a new fashion they saw on the street.

Another 28-year-old at Yelp, with a Ph.D. in applied mathematics, turned his dissertation research on genome mapping into a product used by the company's advertising team. The same genome-mapping algorithm is now used to measure the effect on consumers when multiple small changes are made to online ads.

http://www.wsj.com/articles/academic-researchers-find-lucrative-work-as-big-data-scientists-1407543088

Harvard Business Review

DATA

Data Scientist: The Sexiest Job of the 21st Century

by Thomas H. Davenport and D.J. Patil

FROM THE OCTOBER 2012 ISSUE