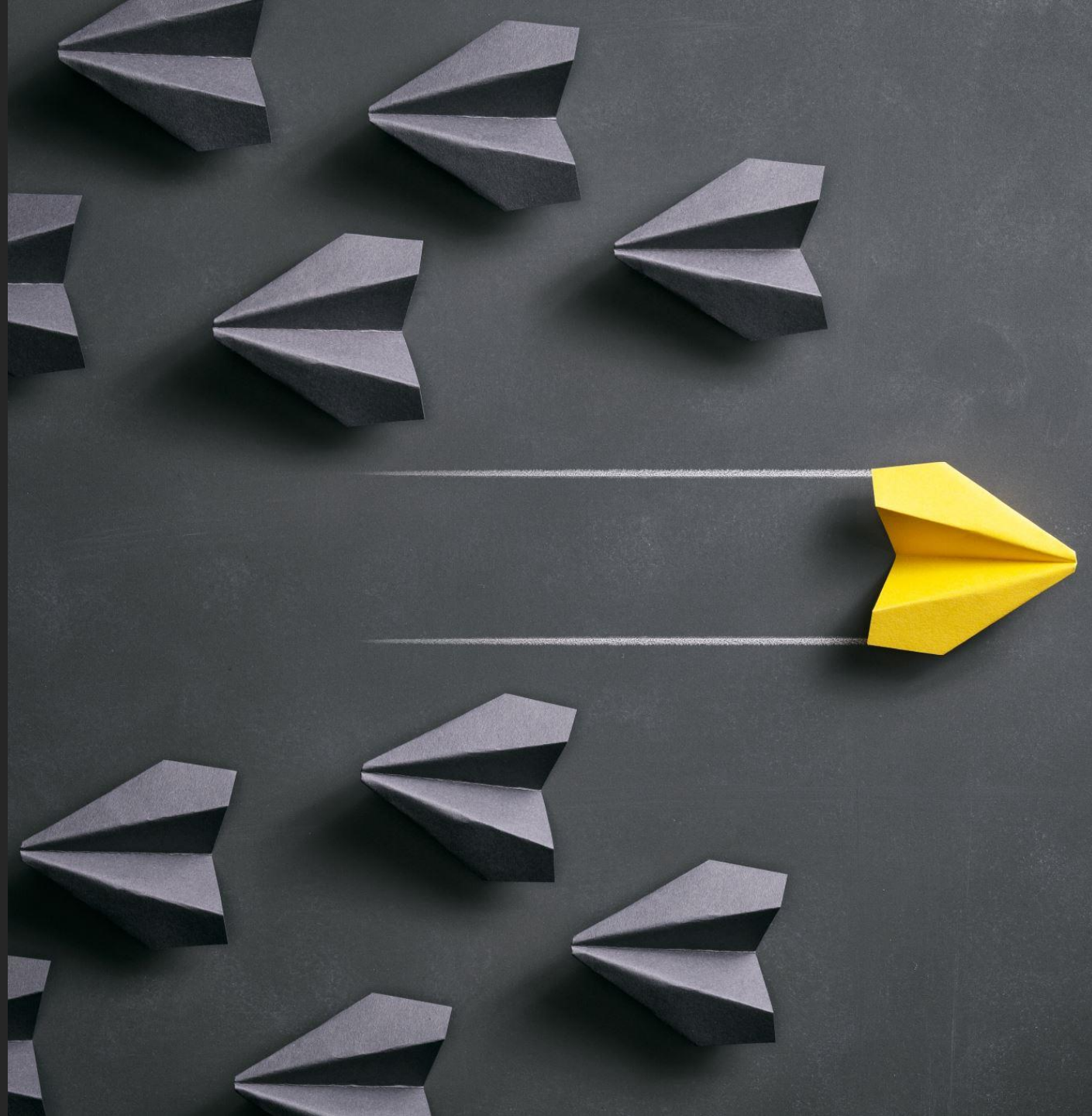


R8 after COVID

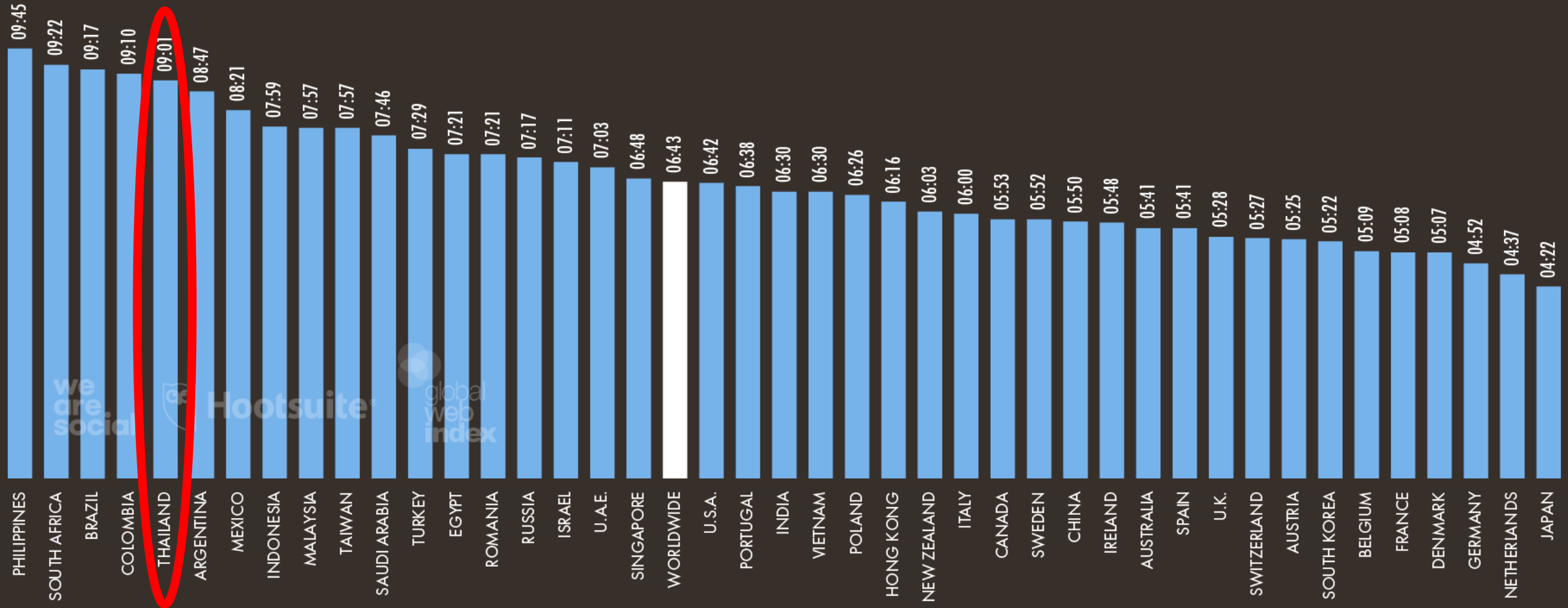
Dr Chanvit Tharathep



JAN
2020

TIME PER DAY SPENT USING THE INTERNET

AVERAGE AMOUNT OF TIME (IN HOURS AND MINUTES) THAT INTERNET USERS AGED 16 TO 64 SPEND USING THE INTERNET EACH DAY ON ANY DEVICE



JAN
2020

SHARE OF WEB TRAFFIC BY DEVICE

EACH DEVICE'S SHARE OF TOTAL **WEB PAGES** SERVED TO **WEB BROWSERS** IN DECEMBER 2019

MOBILE
PHONES



53.3%

DEC 2019 vs. DEC 2018:

+8.6%

LAPTOPS &
DESKTOPS



44.0%

DEC 2019 vs. DEC 2018:

-6.8%

TABLET
COMPUTERS



2.7%

DEC 2019 vs. DEC 2018:

-27%

OTHER
DEVICES



0.07%

DEC 2019 vs. DEC 2018:

-30%



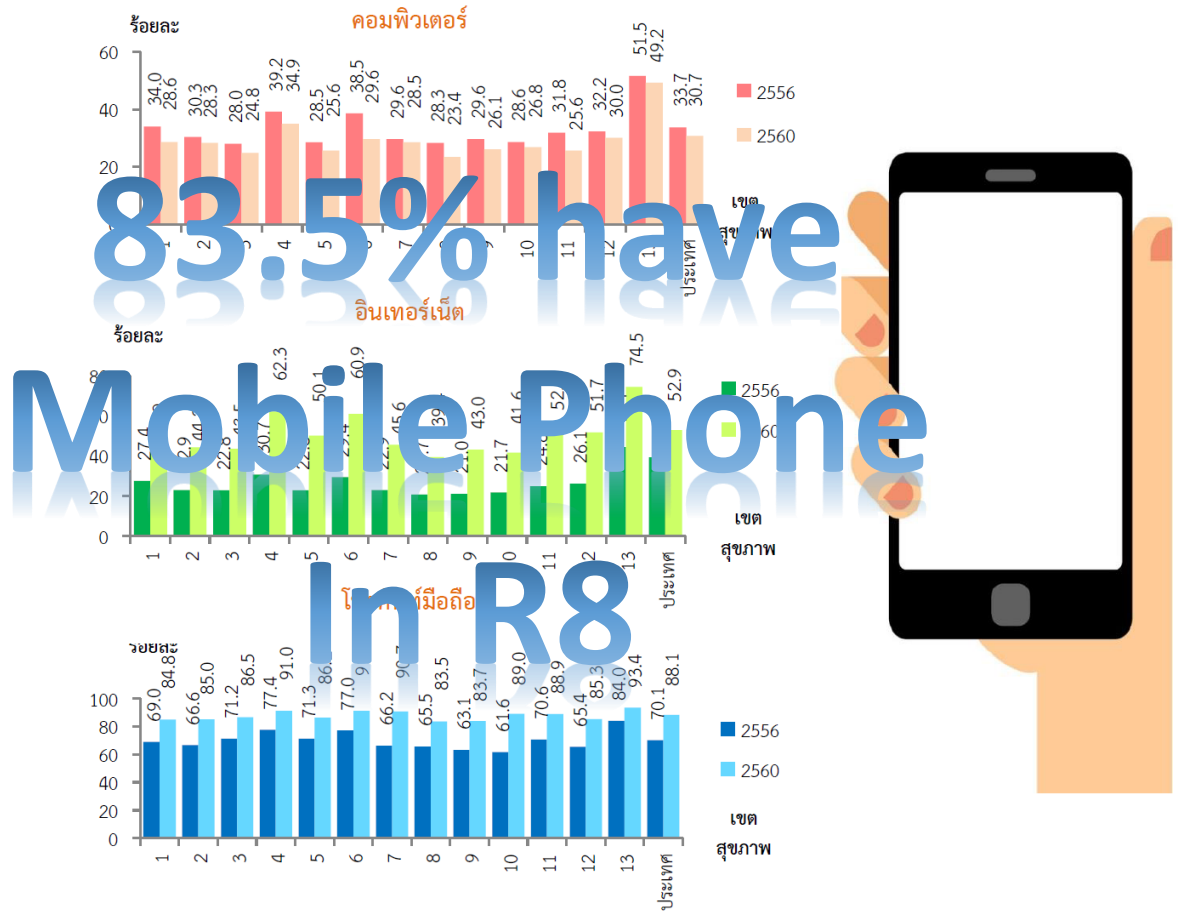
we
are
social



we
are
social

Hootsuite®

ร้อยละประชากรอายุ 6 ปีขึ้นไปมีการใช้เครื่องมือ/อุปกรณ์เทคโนโลยีสารสนเทศและ
การสื่อสาร พ.ศ.2556 และ พ.ศ. 2560 จำแนกตามเขตสุขภาพ



ที่มา : รายงานการสำรวจการมี การใช้เทคโนโลยีและการสื่อสารในครัวเรือน พ.ศ. 2560, สำนักงานสถิติแห่งชาติ กระทรวงเทคโนโลยีสารสนเทศและการสื่อสาร



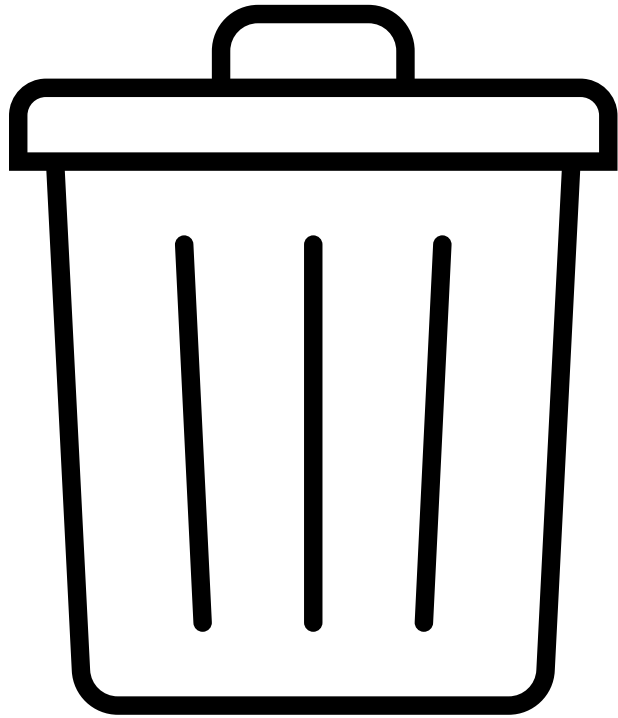
MoPH Digital Burden Transformation

Efficiency? Less Efficiency? Least Efficiency?

Medical
Devices for
COVID?

Human
Resources for
COVID?

Time
spending for
COVID?



IT, Activities for Report
IT, Activities for Silo
IT, Activities without Value



IT, Activities for Integration
IT, Activities for AI, ML
IT, Activities for Health Impact

The Semmelweis Reflex:

Why does Education Ignore Important Research?

“The reflex-like tendency to reject new evidence or new knowledge because it contradicts established norms, beliefs or paradigms.”



Lesson learnt from the best

reduction of full scale emergency hospitals and hospital beds

Structural changes in Swedish health and social care

Governmental levels

- State level / 4 Health Regions
- 19 counties
- 422 municipalities Jan 1st 2018 (will be reduced to 354) (primary health care)

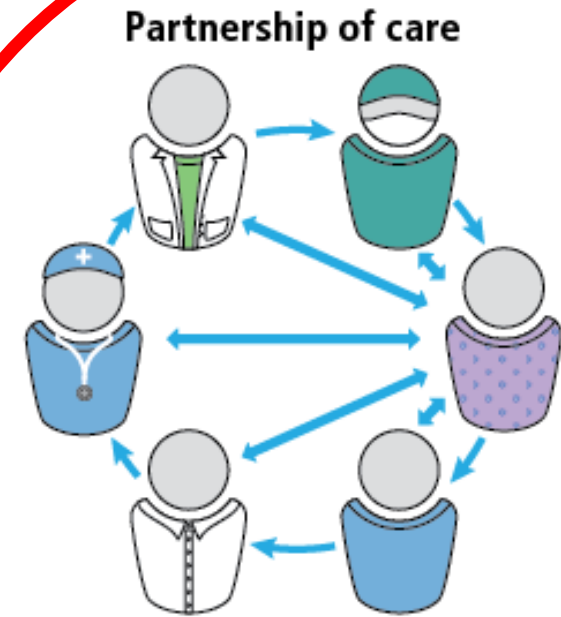
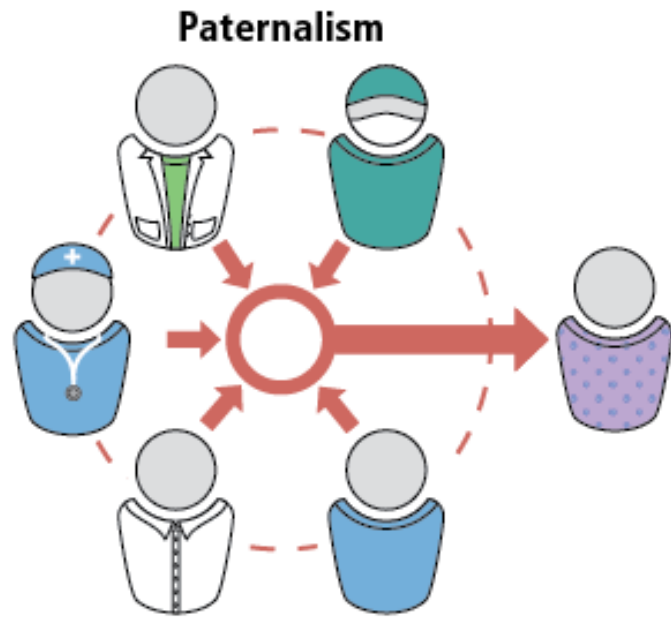


422 municipalities Jan 1st 2018 (will be reduced to 354) (primary health care)

In the last years we have seen:

- reduction of full scale emergency hospitals and hospital beds
- increase of health care centres
- development from inpatient care to outpatient care and from hospital care to home care
- increased differentiation and specialization
- increased proportion of patients with chronic diseases
- growing proportion of elderly people – but many are active and healthy
- increased opportunities for users and patients to choose provider
- increase of private providers

Personalized, Preventive, Predictive, Participation



- Patient as an actor of care
- Informed decision
- Competency development
- Self-management
- Member of the care team
- Life-project focus

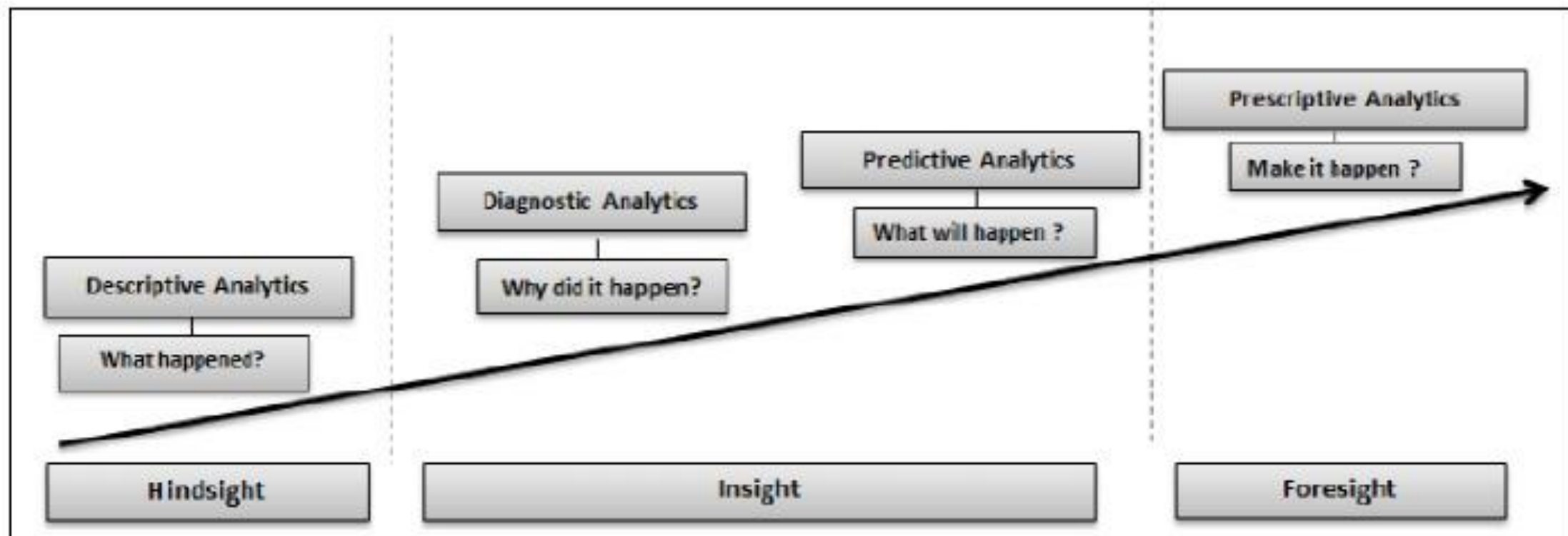
Informing

Consulting

Involvement

Co-building

Co-leadership



COVID,
Strategic
Opportunity
or Risk?



CD impact

NCD impact

Traffic Accident and Injury
impact

Mental health impact



How to sustain Health impact?

- Temporary Healthy behavior -> Permanent Healthy behavior
- Temporary Risk reduction -> Permanent Risk reduction

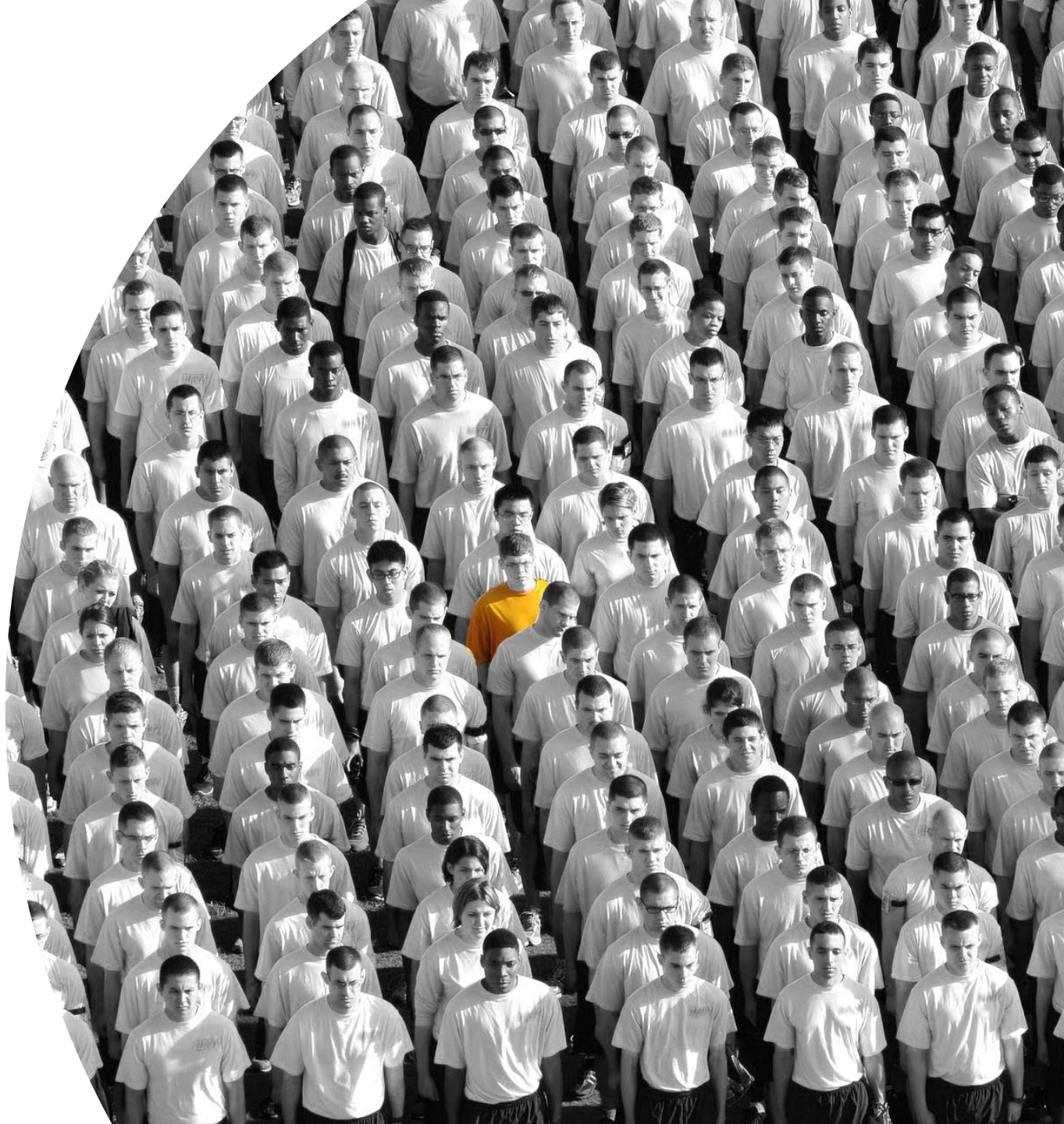


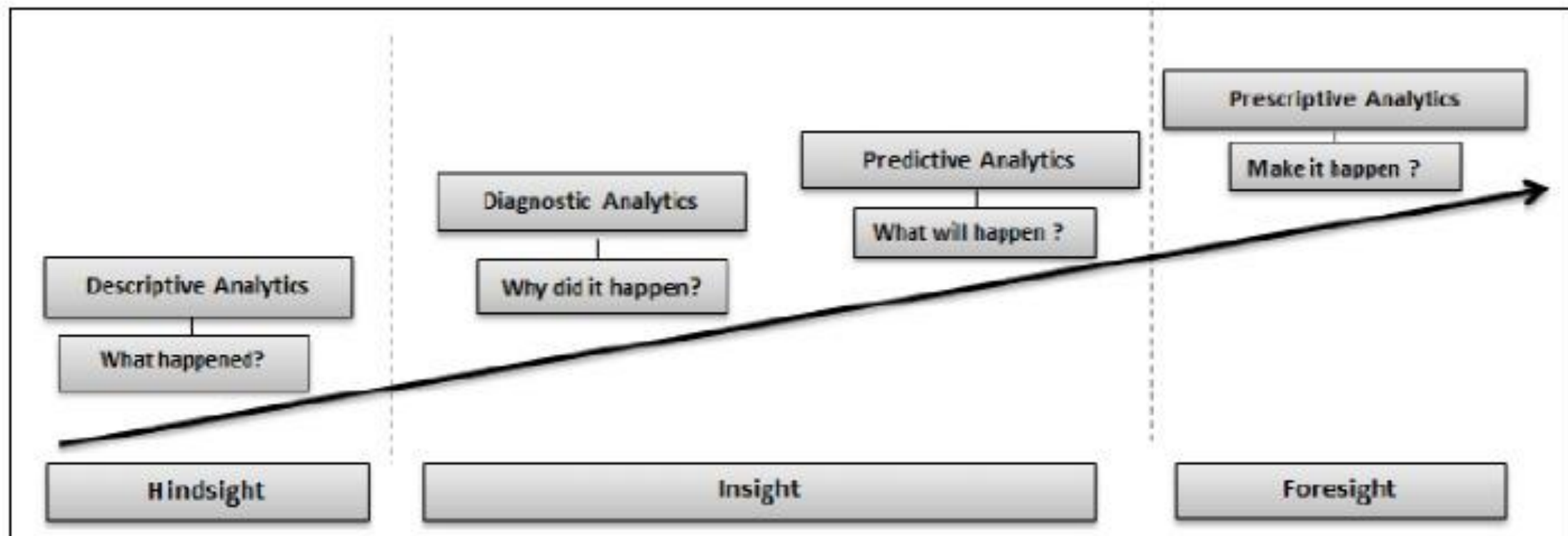
New Normal?

- New Normal -> try to stabilize change
- New will be Normal
- New without Normal
- Be prepare for change

The SCIENCE IS EXACT

The target can be pinpointed by
AI





Risk Factors and Weight

BSLEVEL	0.1517838	DBP	0.01165137
age	0.13860297	HEIGHT	0.01033841
icd_I	0.06432325	icd_J	0.00914939
CHRONIC	0.0612962	icd_K	0.0089191
BMI	0.05394685	MSTATUS	0.00863981
icd_R	0.04955207	HTFAMILY	0.0083168
SEX	0.04859459	INSTYPE	0.00756763
icd_E	0.04327232	icd_M	0.00706016
HOSPCODE	0.03474408	OCCUPA	0.00616433
WEIGHT	0.03030343	SMOKE	0.00569863
PID	0.0241978	fp	0.00557007
AMPUR	0.02295185	icd_H	0.00307418
CID	0.02257576	icd_N	0.00265404
CHANGWAT	0.02174959	icd_G	0.0017128
TAMBON	0.02113939	icd_L	0.00161881
VILLAGE	0.01994784	icd_B	0.00118913
SBP	0.01875979	icd_T	0.00054119
icd_Z	0.01714521	icd_S	0.00023861
WAIST_CM	0.01446311	icd_F	5.9924E-05
icd_U	0.0141751	icd_V	3.5842E-05
ALCOHOL	0.01389481	icd_Y	2.3936E-05
DMFAMILY	0.01235056	icd_W	5.5081E-06



Data Table Views



<input type="checkbox"/>	CID	Hospital	Sex	Age	BMI	NCD Risk weight ↑	<input type="checkbox"/>
<input type="checkbox"/>	3411600000000 😊	4208 🏥	2 🍷	52 ❤️	27.34 🍲	0.7092254757881165 💰	<input checked="" type="checkbox"/>
<input type="checkbox"/>	3480700000000 😊	5694 🏥	2 🍷	44 ❤️	35.2 🍲	0.6910345554351807 💰	<input checked="" type="checkbox"/>
<input type="checkbox"/>	3420700000000 😊	11034 🏥	2 🍷	74 ❤️	23.11 🍲	0.6882231831550598 💰	<input checked="" type="checkbox"/>
<input type="checkbox"/>	3480600000000 😊	5670 🏥	1 🍷	47 ❤️	22.83 🍲	0.6601588129997253 💰	<input checked="" type="checkbox"/>
<input type="checkbox"/>	5480790000000 😊	5678 🏥	2 🍷	48 ❤️	34.6 🍲	0.6583448648452759 💰	<input checked="" type="checkbox"/>

Rows per page: 5 ▾ 1-5 of 897638 |< < > >|

Digital Transformation to 4Ps medicine



Integrated all Information -> Loopback
API -> Machine Learning



Relational Table Based Database ->
Document Based Database



Synchronous programming->
Asynchronous programming



Desktop first -> Mobile first