



Future Work Skills

New skills to manage a rapidly shifting environment for health and health care

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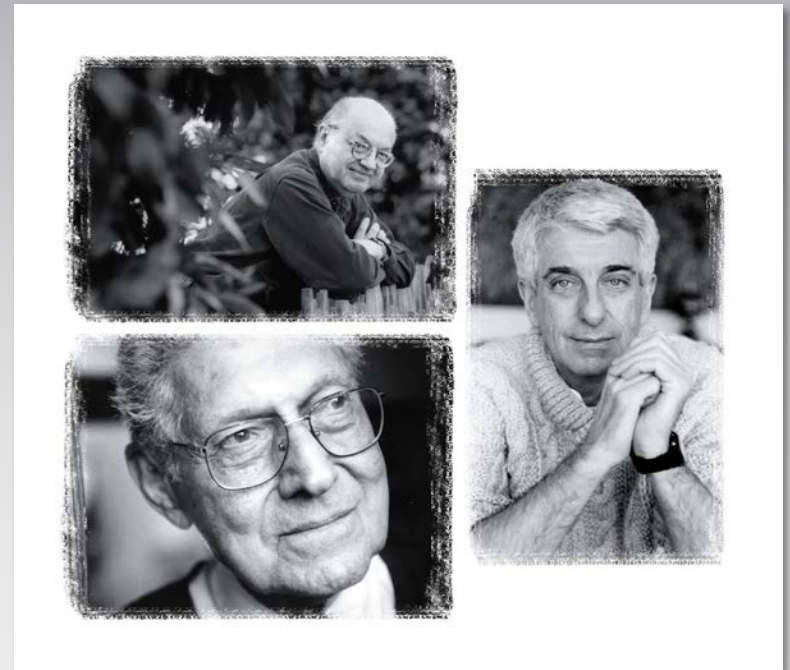
Twitter: @bkreit

For Kaiser Permanente

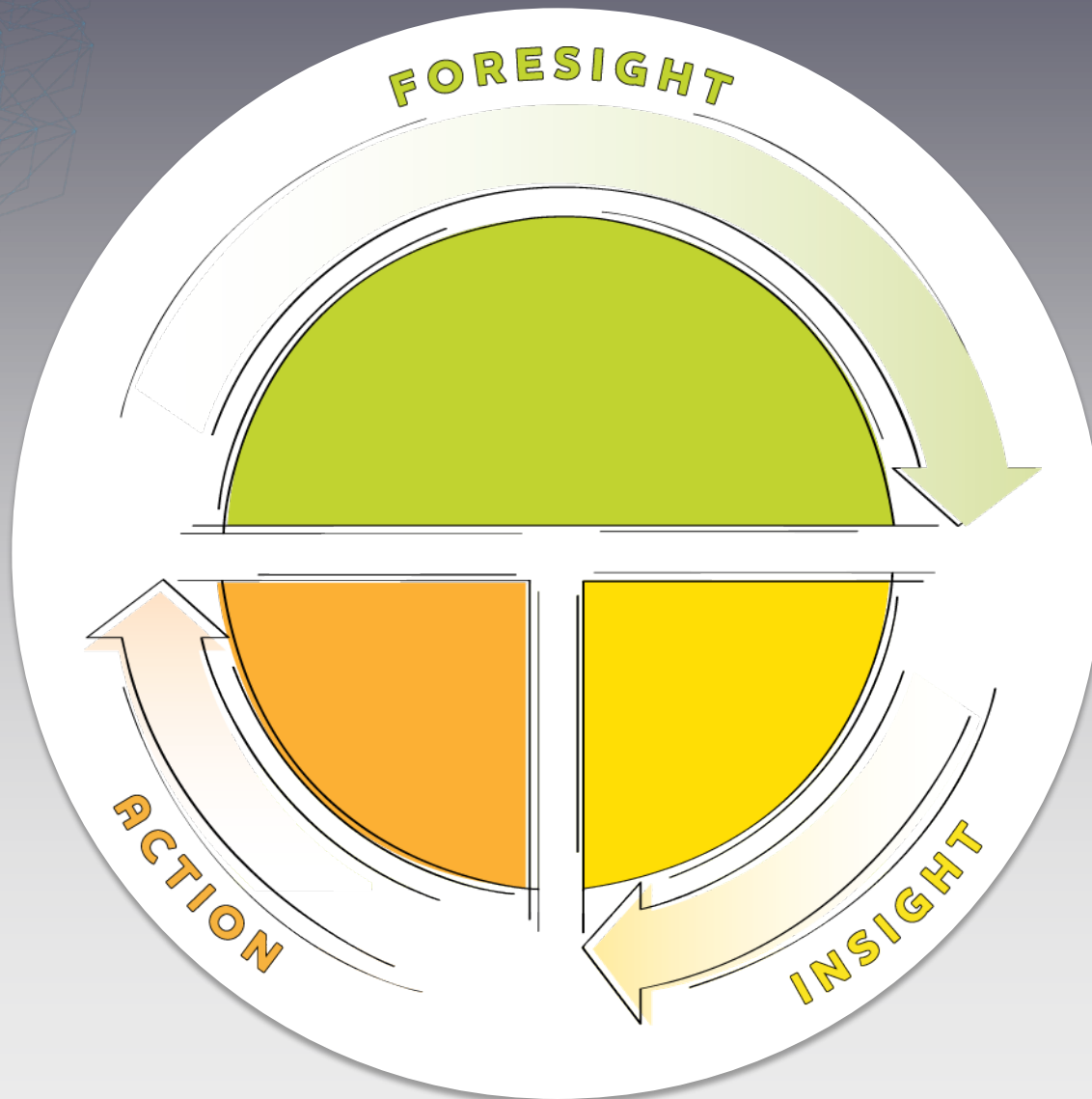
October 7, 2014

our roots

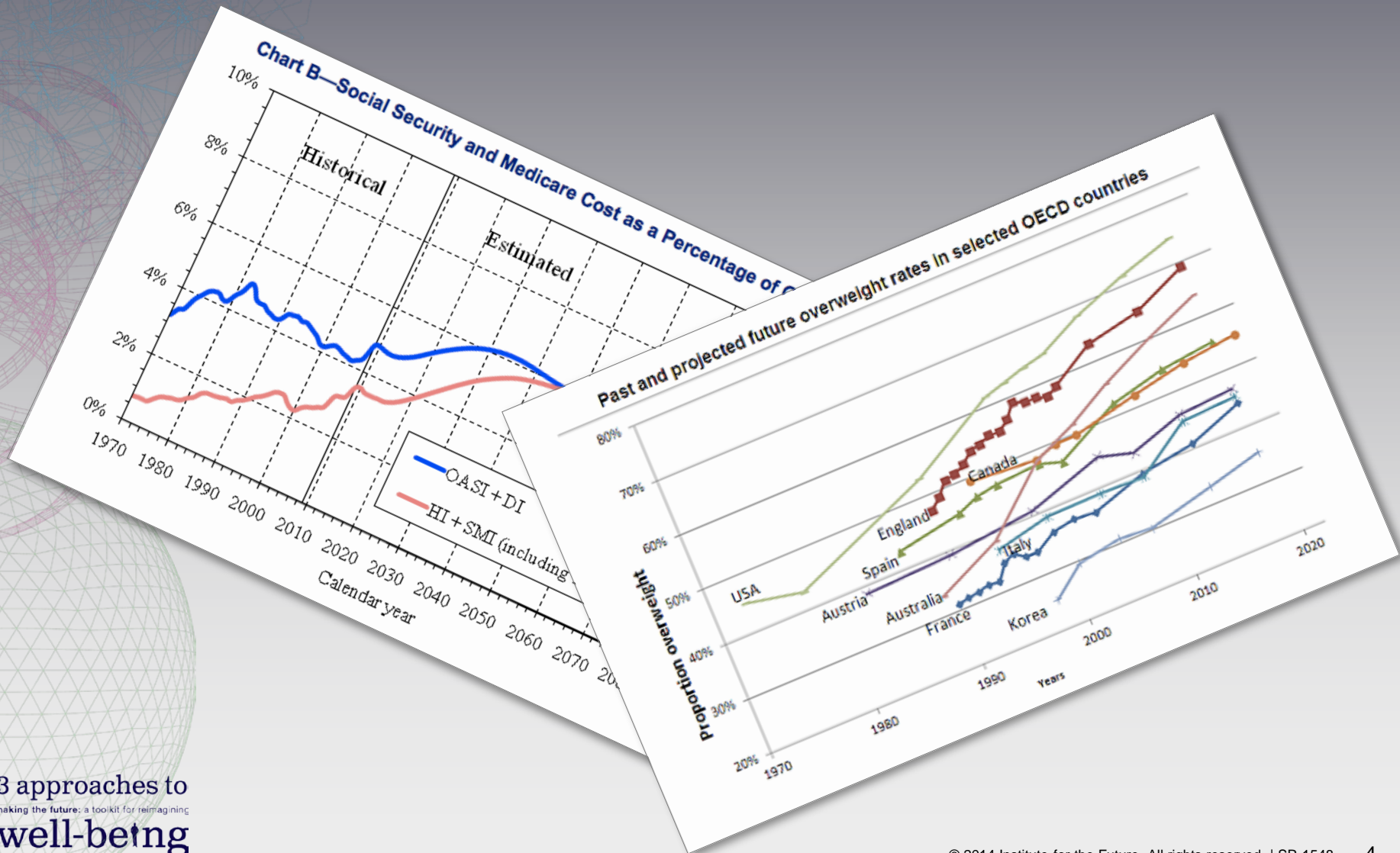
- Founded in 1968
- Spin-off of the RAND Corporation
- Methodologies to forecast the future, applied to business, government, and non-profits
- Our founders:
 - Paul Baran
 - Olaf Helmer
 - Jacques Vallee

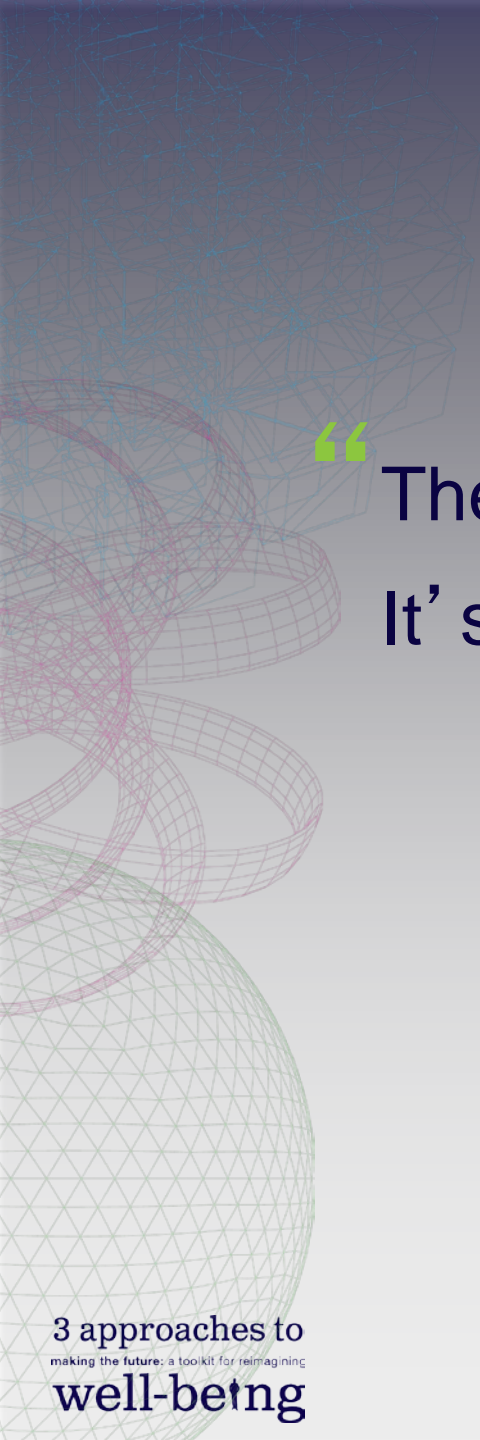


foresight to insight to action



future projections





“ The future is already here. ”
It’s just not evenly distributed.

–*William Gibson, 2003*



PVI

Parkinson's Voice Initiative



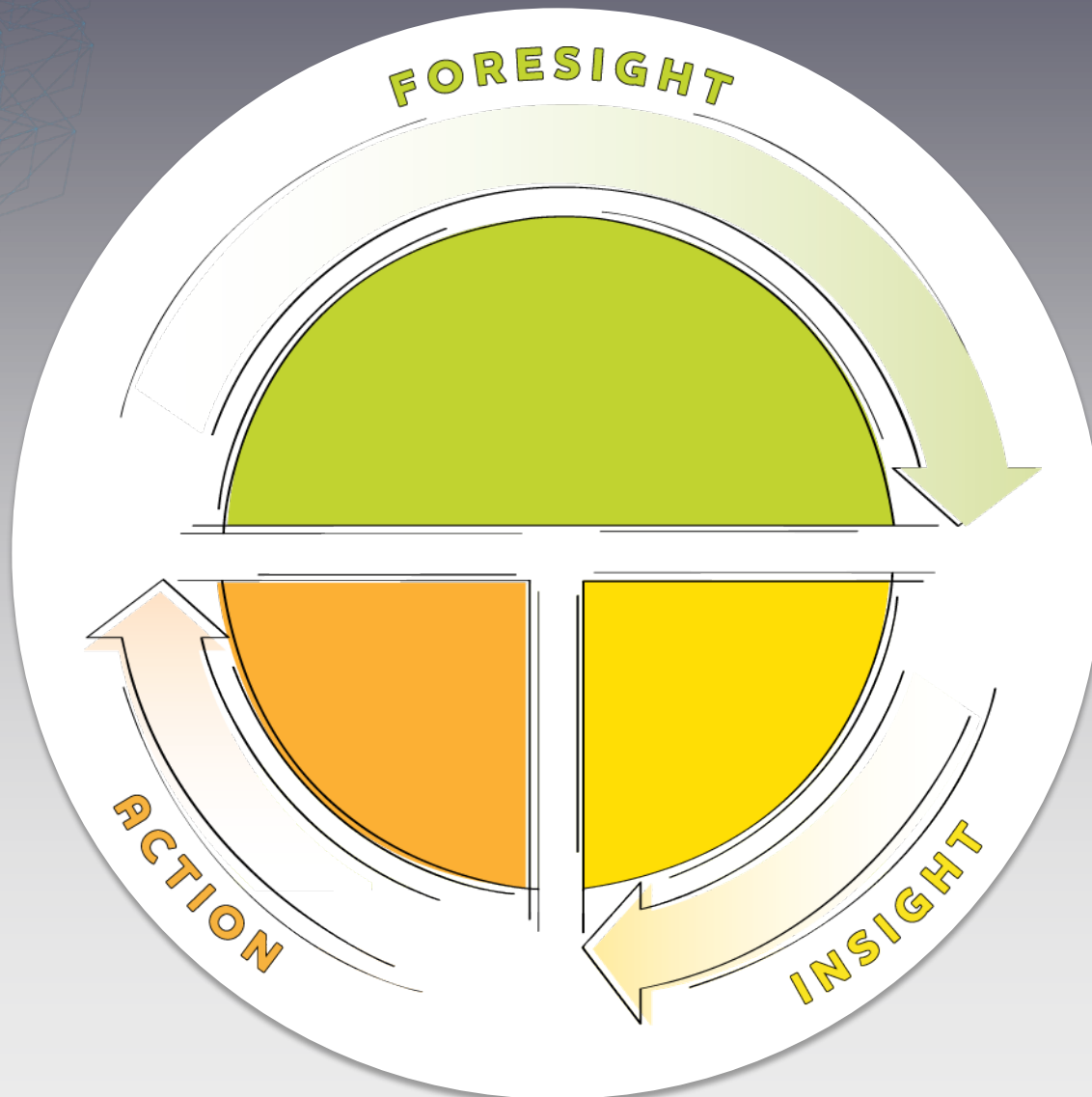


PVI

Parkinson's Voice Initiative



foresight to insight to action





Future Work Skills

2020



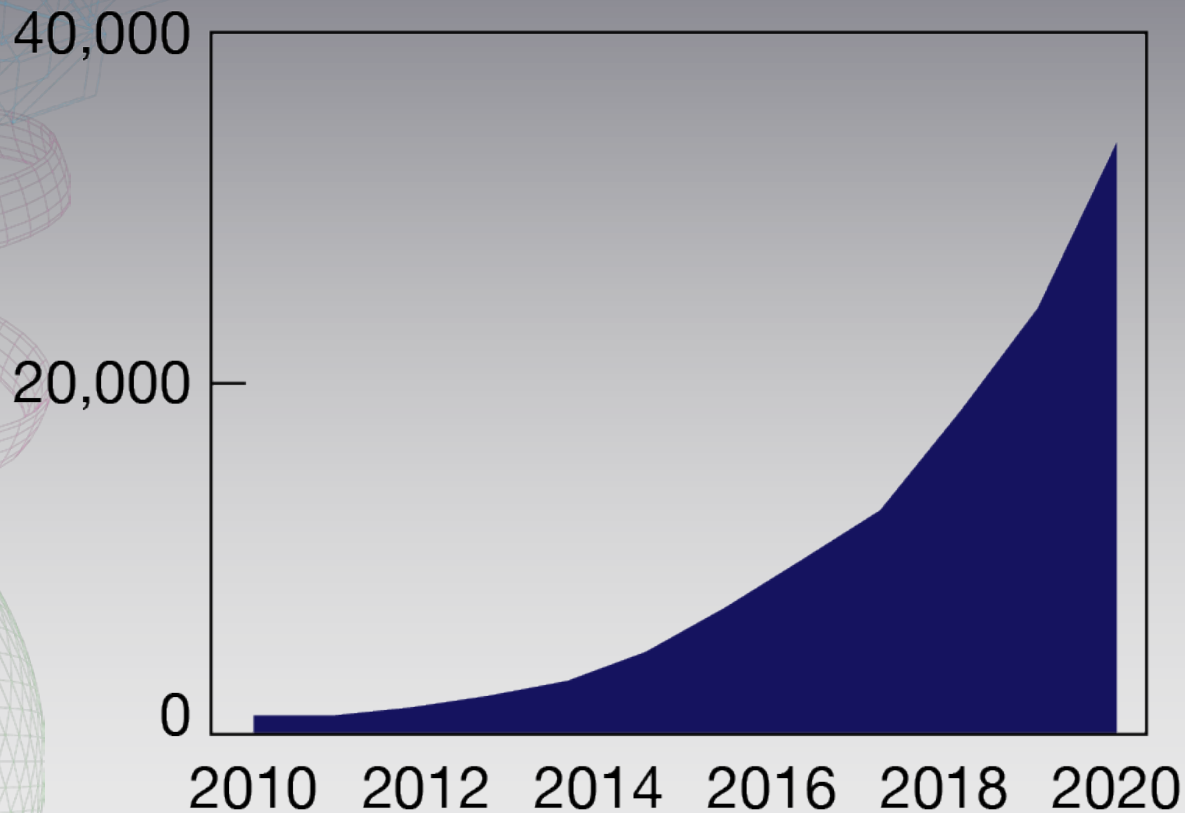
Future Work Skills

Computational Thinking

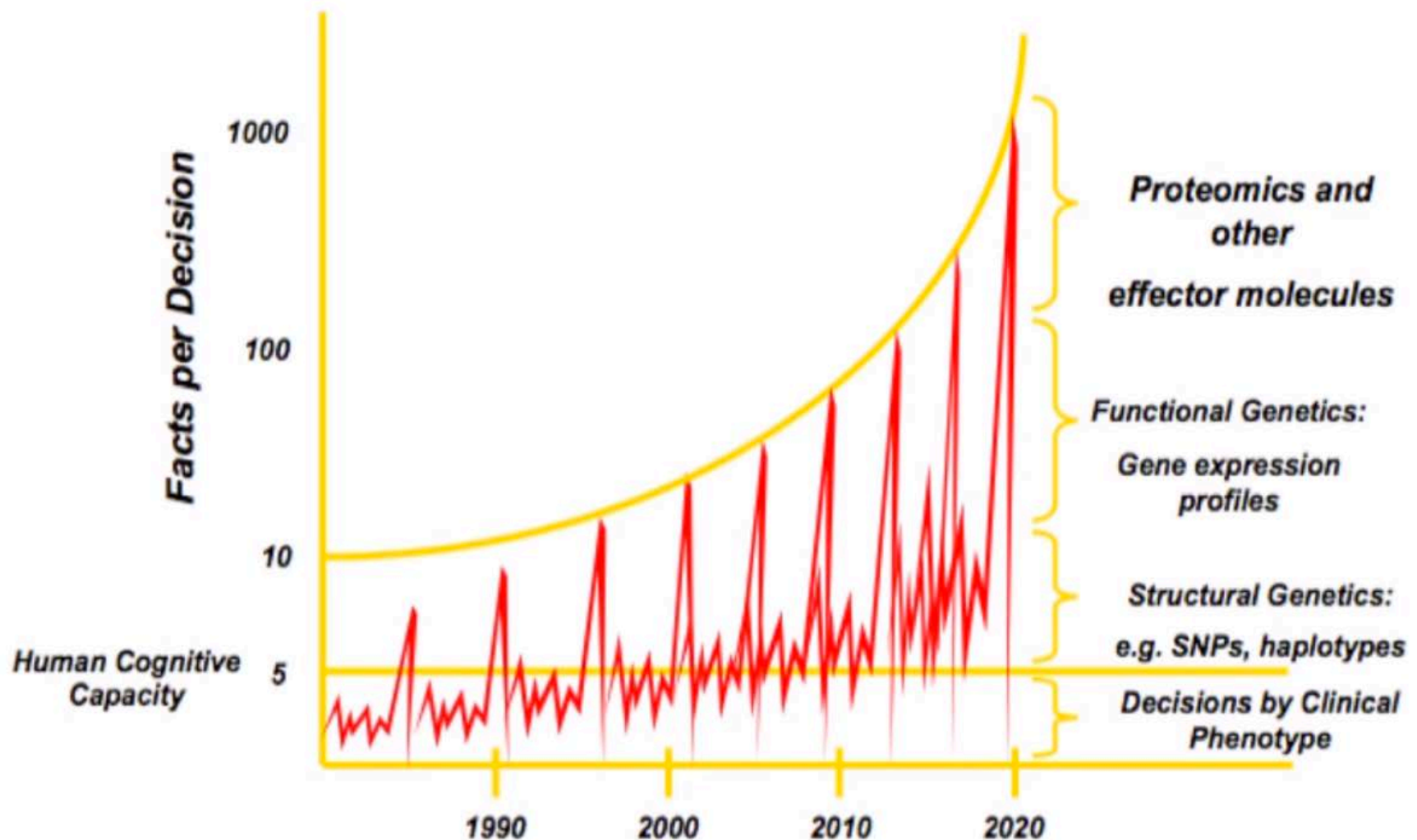
Ability to translate vast amounts of data into abstract concepts and to understand data-based reasoning

by 2020, digital records will be
44 times larger than in 2009

Global digital data (in exabytes)

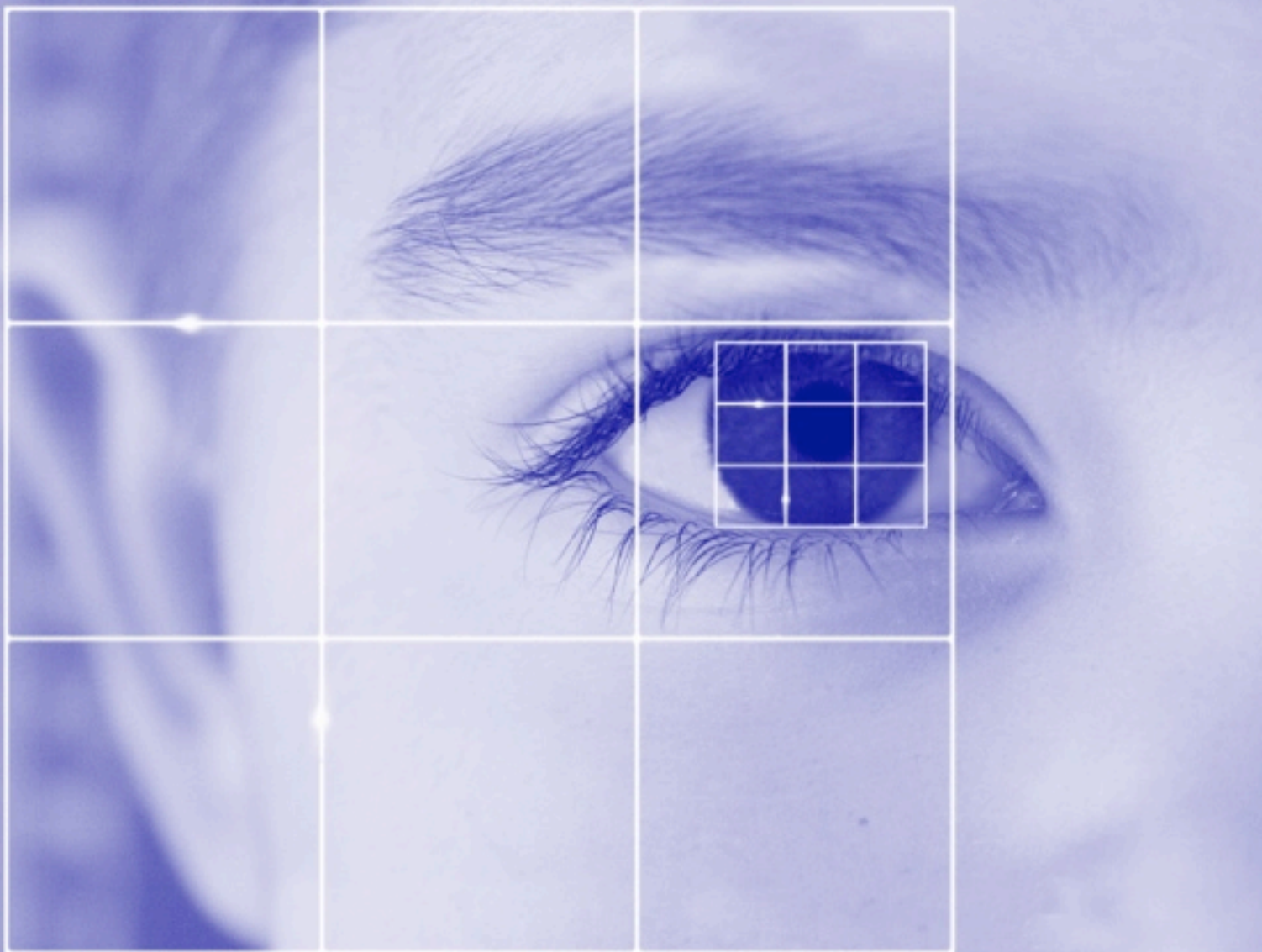


exponential increase in facts per clinical decision

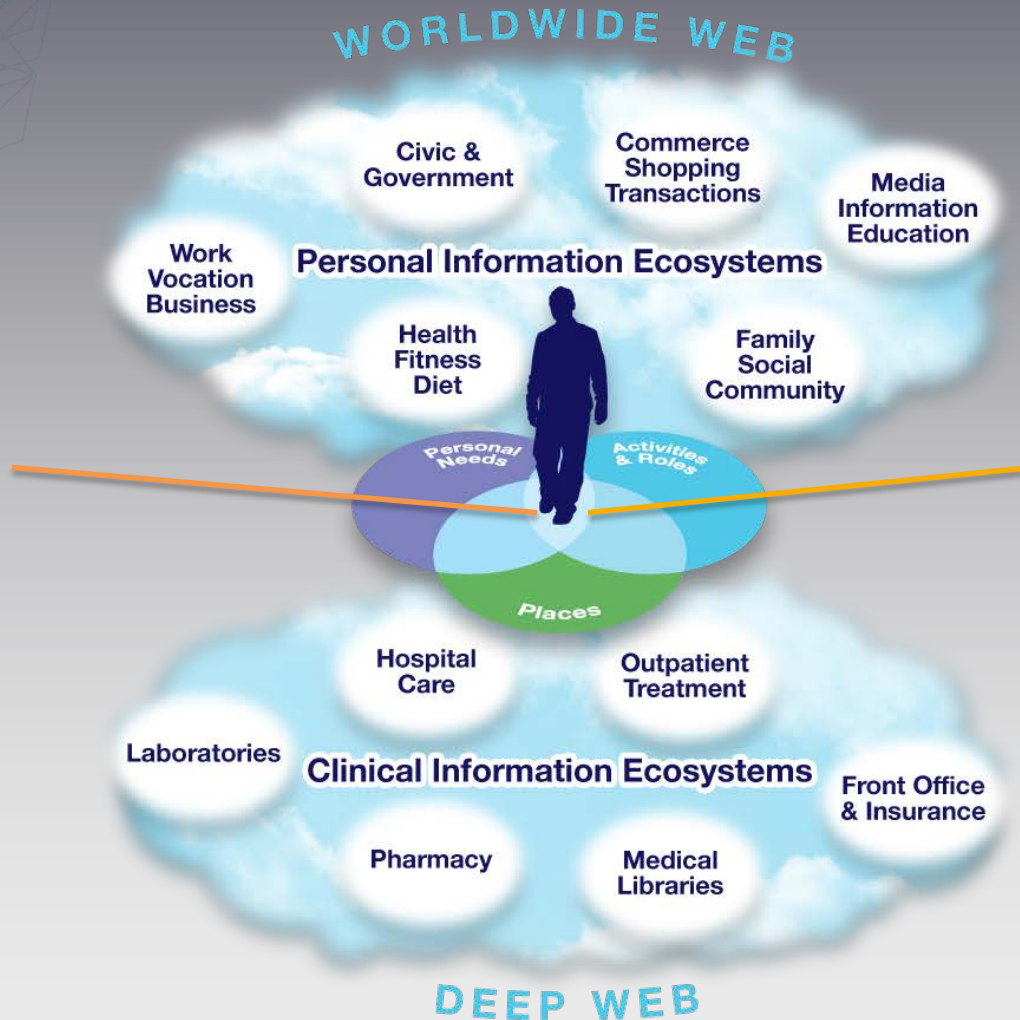


William Stead, IOM Meeting, 8 October 2007. Growth in facts affecting provider decisions versus human cognitive capacity.

the next decade of abundant data



intersecting information ecosystems



Contextual

- by person
- by activity
- by place

- software
- services
- devices
- IT infrastructure

Signal: Media for Premature Babies



Signal:



MICROSOFT EARBUDS MONITOR WEARERS' HEALTH TO HELP PICK THE NEXT SONG

- Being **consumer centric** will require new integration of consumer-driven and traditional health measures
- **Collaborations** will move from within the health care industry to include partnerships that span industries and scales

Future Work Skills

Transdisciplinarity

Literacy in and ability to understand concepts across multiple disciplines

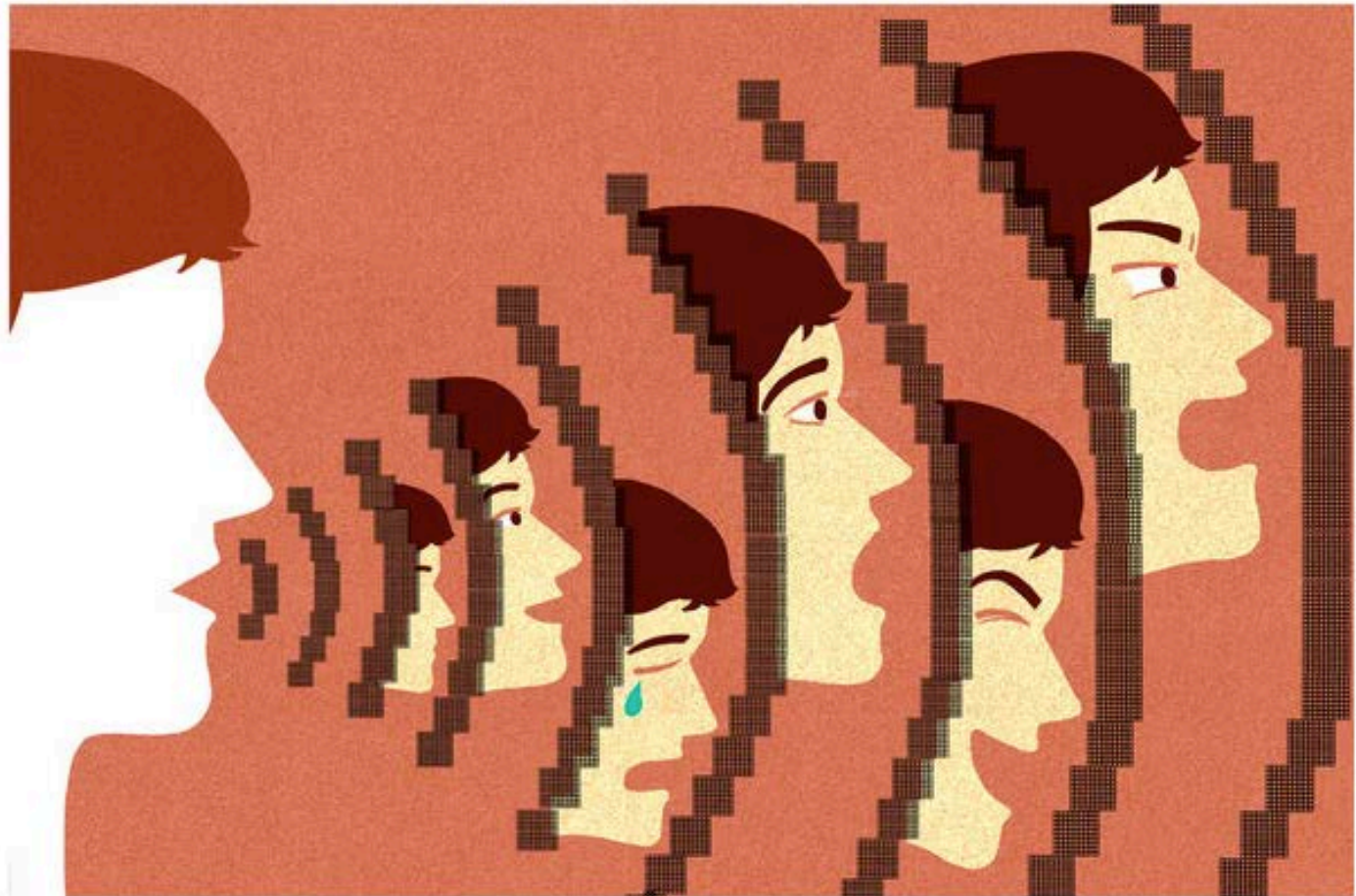
A decade of combinatorial innovations...

Computation + Psychology

Signal: Moodspotting in Call Centers

TECHNOPHORIA

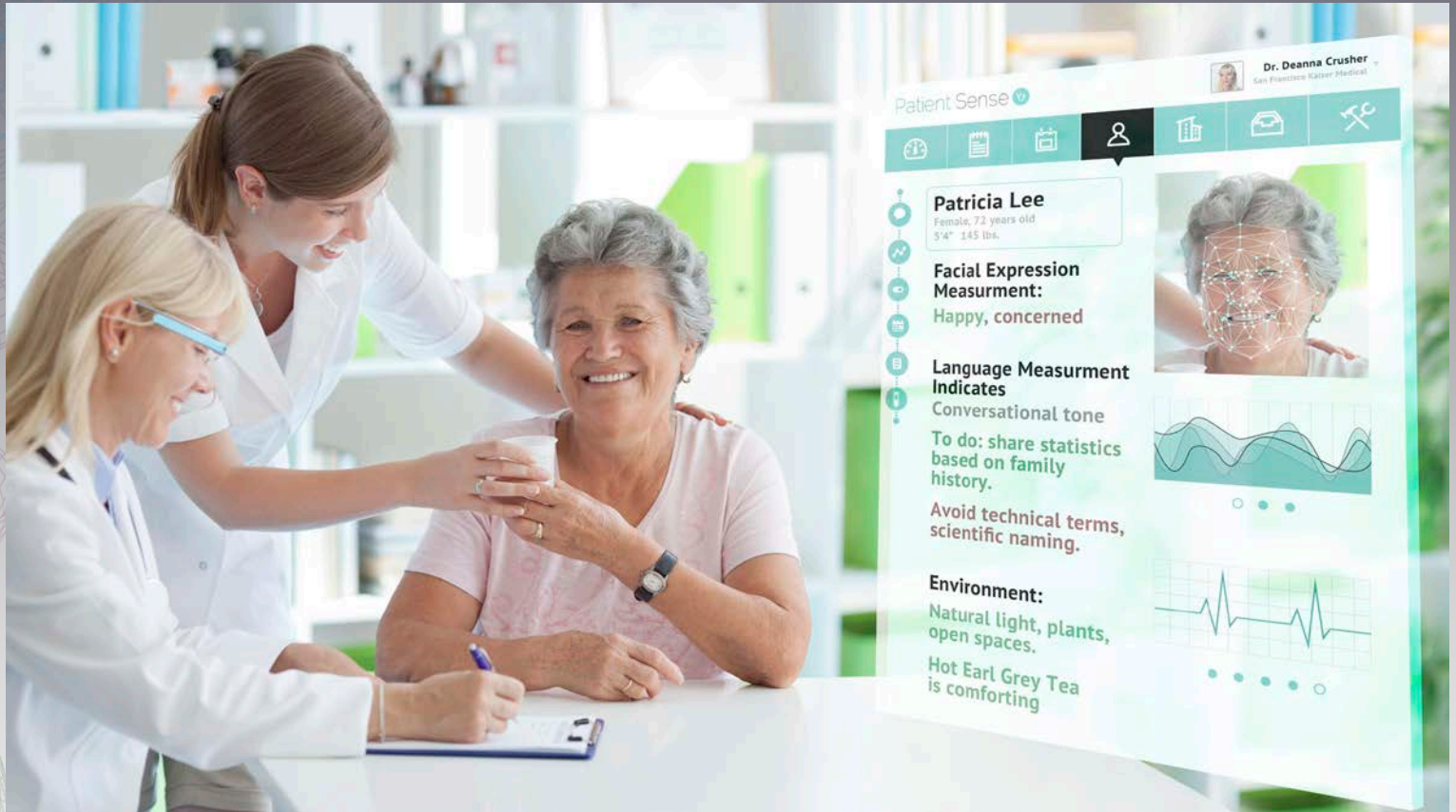
In a Mood? Call Center Agents Can Tell



Boyoun Kim

3 approaches to
making the future: a toolkit for reimagining
well-being

Artifact from the Future: Patient Sense

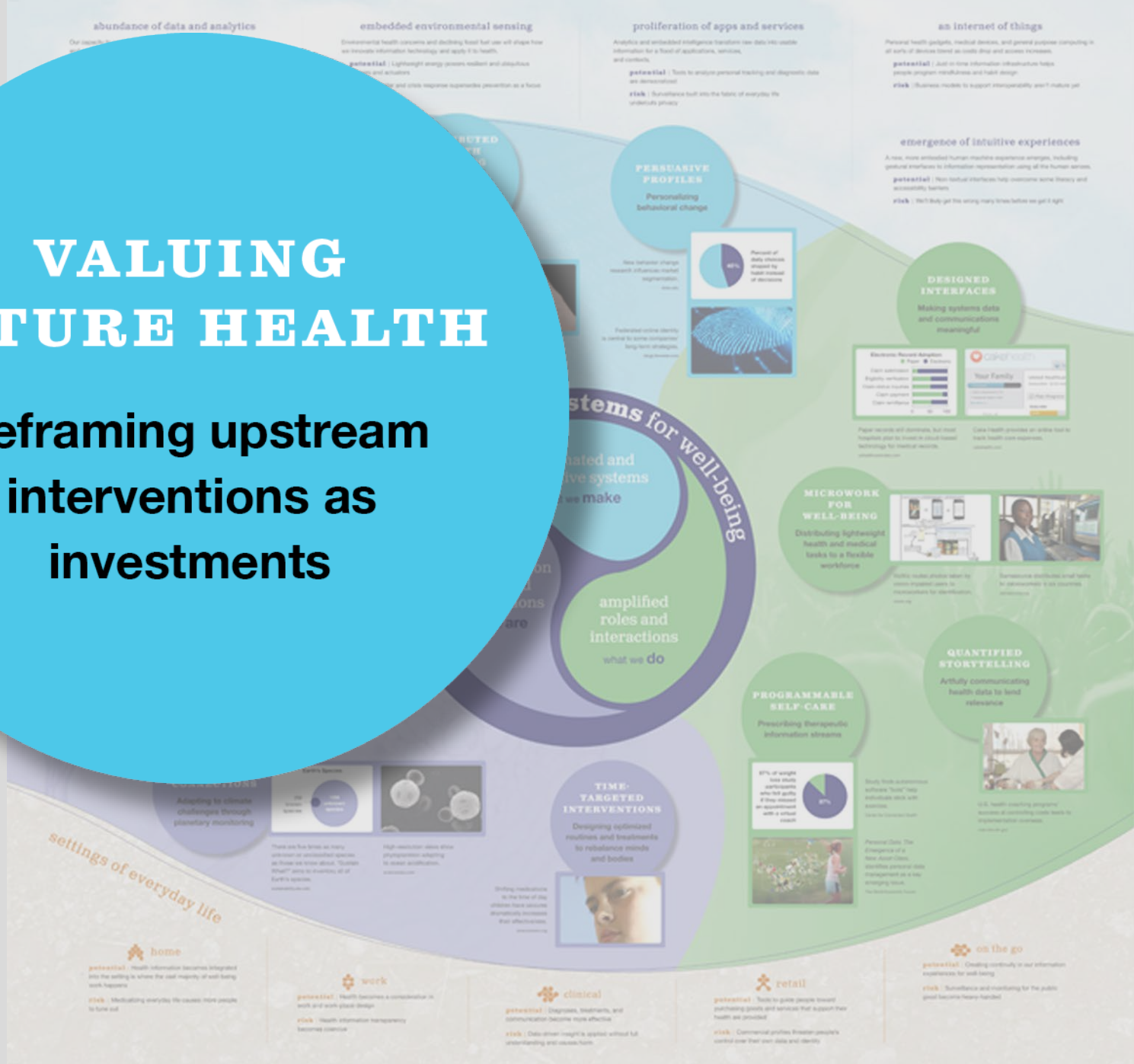


A decade of combinatorial innovations...

Financial Innovation + Data Science + Public Health

VALUING FUTURE HEALTH

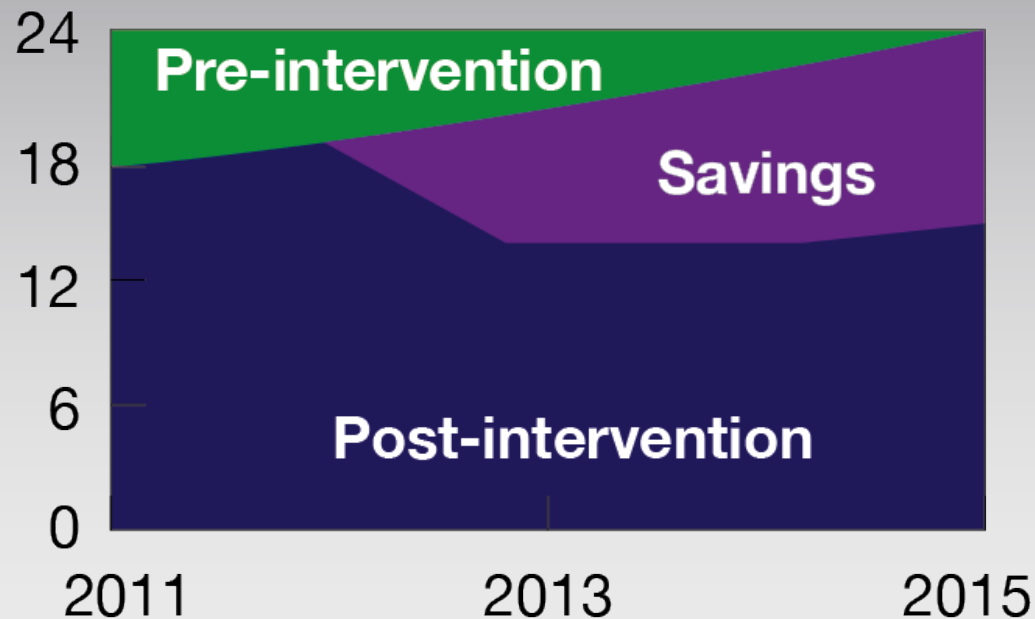
Reframing upstream interventions as investments





Intervention Investment Impact

Medical costs (millions)





- **Collaborations** from unexpected and disconnected fields will open up opportunities for novel innovations in care
- Integrating insights from multiple fields will accelerate integrated **process improvement** efforts

Future Work Skills

Virtual Collaboration

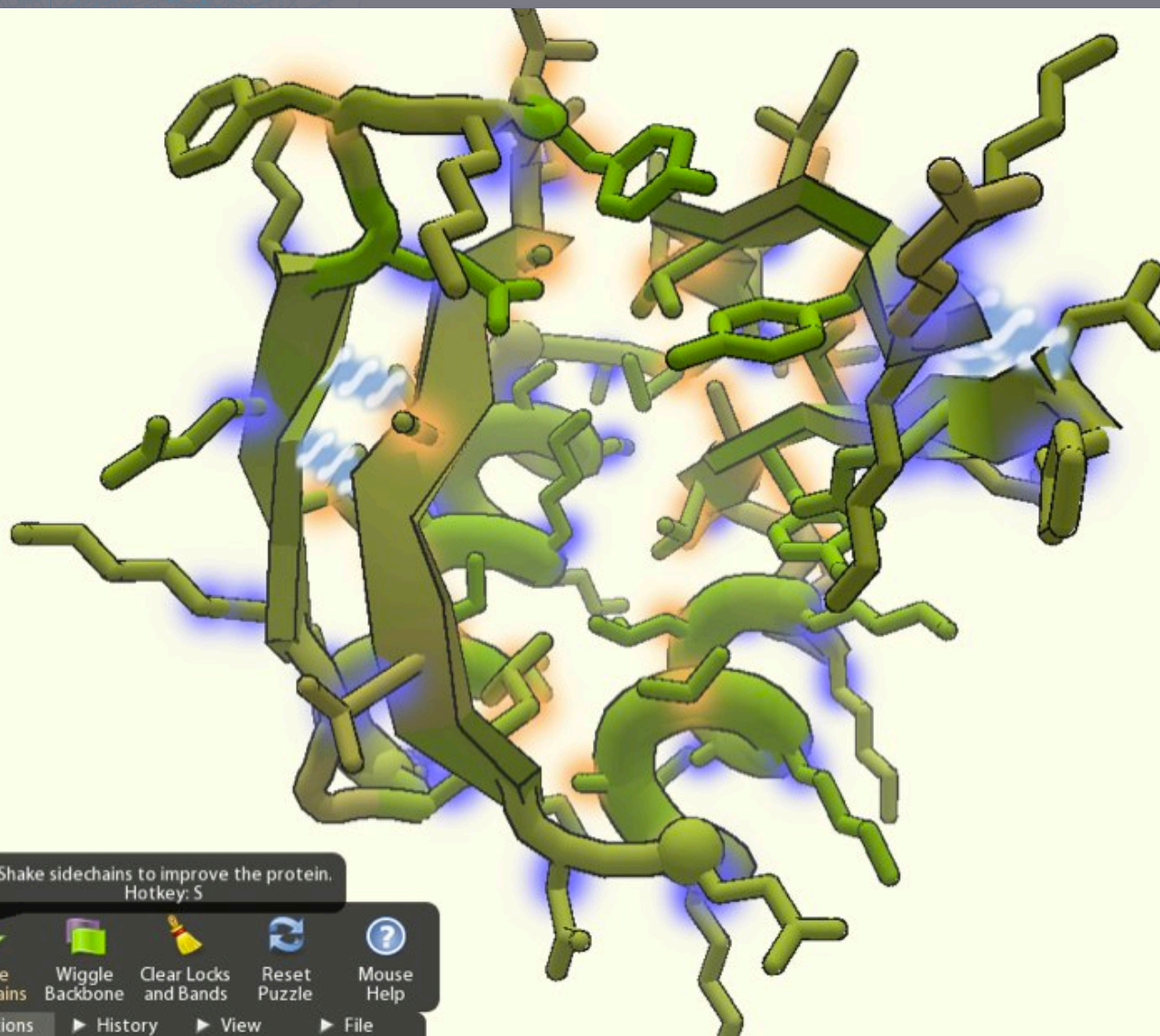
Ability to work productively, drive engagement, and demonstrate presence as a member of a virtual team.







signal: Foldit



Rank: 17 Score: 9092

48: Pro Peptide

▼ Group Competition

#	Group Name	Score
1	The Lone Folder	9388
2	Street Smarts	9367
3	Illinois	9303
4	Berkeley	9255

▼ Player Competition

16	psen	-	9098
17	kathleen	9092	9092
18	versat82	-	9091
19	darktorres	-	9081
20	ccarrico	9032	9066
21	mbjorkegren	-	9048
22	sslickerson	-	9038

► Chat

Shake sidechains to improve the protein.
Hotkey: S

Shake Sidechains Wiggle Backbone Clear Locks and Bands Reset Puzzle Mouse Help

▲ Actions ► History ► View ► File

► Pull Tool

Signal: Propeller Health

Inhaler sensor automatically tracks each use.

Patients track online or on their phone.

Patients receive personalized guidance, medication reminders, and more.

The week to 4 weeks			
Medication taken	80%	Target	80%
Medication refilled	95%	Target	95%
Medication adherence	75%	Target	75%

You're doing well this week but don't forget to refill!

75% of your medication was taken on time.

Medication adherence

- **Digital fluency** will include knowing how to break down complex work into discrete, sometimes tiny tasks
- Encouraging **consumer centric** virtual collaboration opens up new opportunities to improve outcomes

Future Work Skills

Design Mindset

Ability to represent and develop tasks and work processes for desired outcomes



24
HOUR

FITNESS

24
HOUR

PROVIDING
QUALITY FITNESS
SERVICES
7 DAYS A WEEK
24 HOURS
A DAY

IMPROVE YOUR
FITNESS

FITNESS

24
HOUR

Your goal: 60 min cardio

3x week

Your time: 2 months

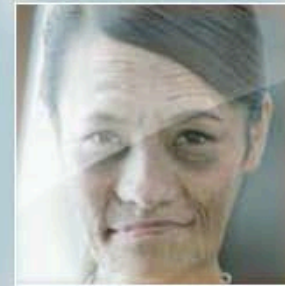
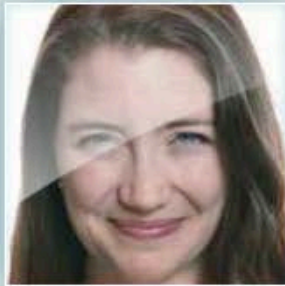
Your Tomorrow™

Improved
skin tone

Leaner
arms



Signal: Face Retirement



Retirement probably isn't something you think about every day. But, if you could see yourself in retirement—if you could age your photo and come face-to-face with the future you—it just might change how you think about the future. And how you prepare for it.

[MEET THE FUTURE YOU ▶](#)

The INTERNET of THINGS



During 2008, the number of **things** connected to the Internet exceeded the number of **people** on earth.



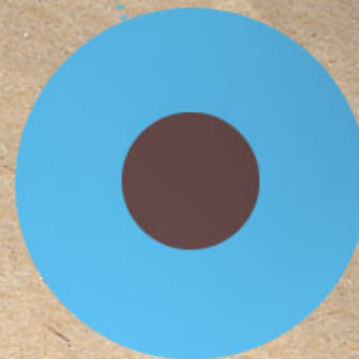
2003



2010



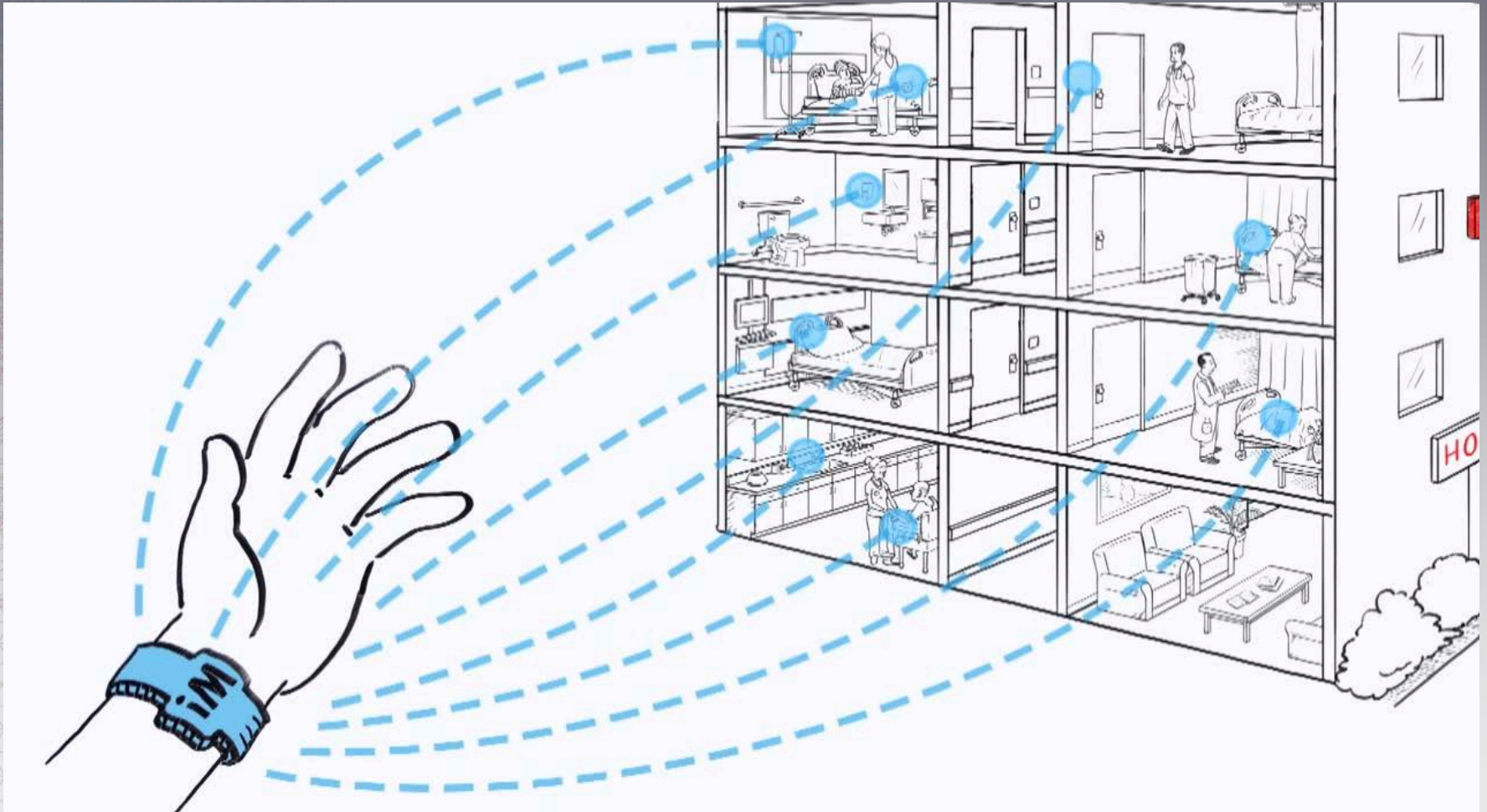
2015



By 2020 there will be **50 billion.**

These **things** are not just smartphones and tablets.

signal: Intelligent M Bracelet



ambient awareness: visual reminders

GlowCaps™
light and sound
remind you to take your
prescriptions every day





1.50€ 30 1.50€ Sélection 31 0.90€ Sélection 32 1.00€ Sélection 33 36



40 1.00€ 41 1.00€ Sélection 42 1.00€ Sélection 43 1.00€ Sélection 44 1.50€ Sélection 45 1.00€ Sélection 46 1.00€ Sélection 47 0.90€ 48



choice reducer 5000
less is more



You'd need to run:
48 min
to work this off

You'd need to run:
67 min
to work this off

BLOCKED

BLOCKED

Neela
removed
this item

BLOCKED

BLOCKED

3:11 pm

1803 cal

instant support: **Neela**

- **Consumer centric** interventions move beyond providing information to designed solutions
- Careful design can automate critical **process improvement** efforts



Thank you!

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