

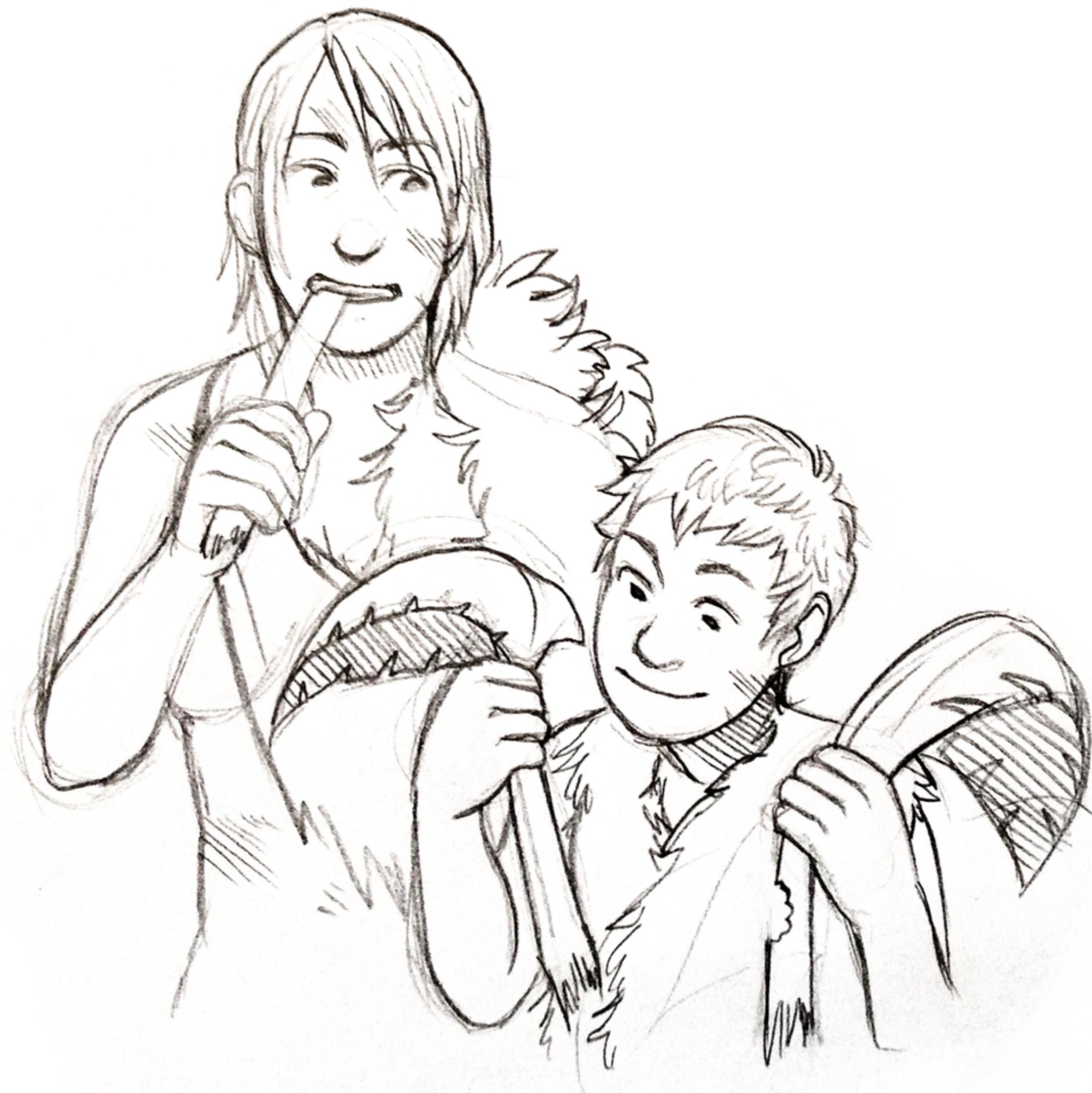
Design is Medicine

Life first. Health a distant second.

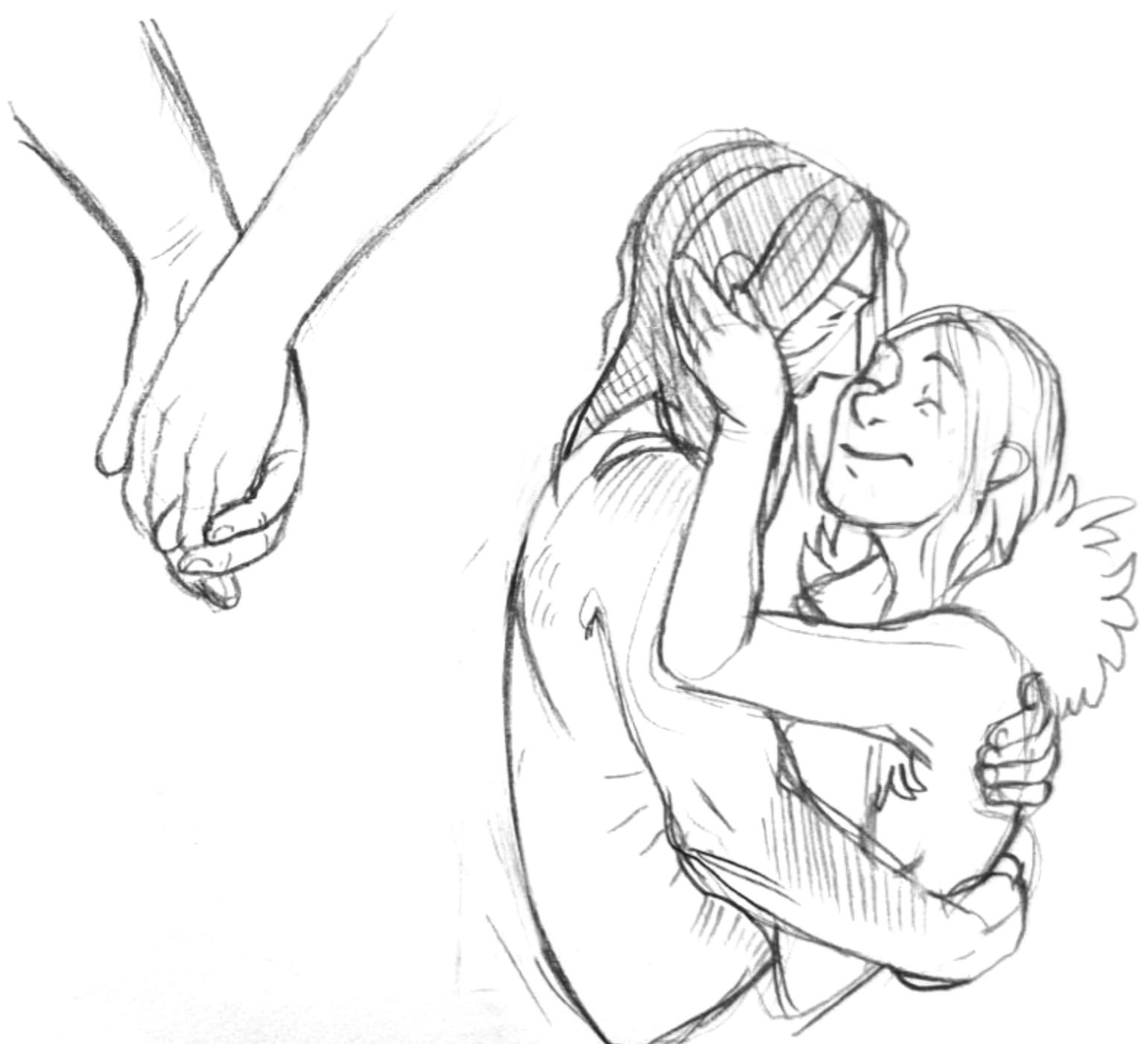
Juhan Sonin
juhan@goinvo.com
Sep 2013

From Bloodletting to Bloodless











If we feel ok,
we think we're ok



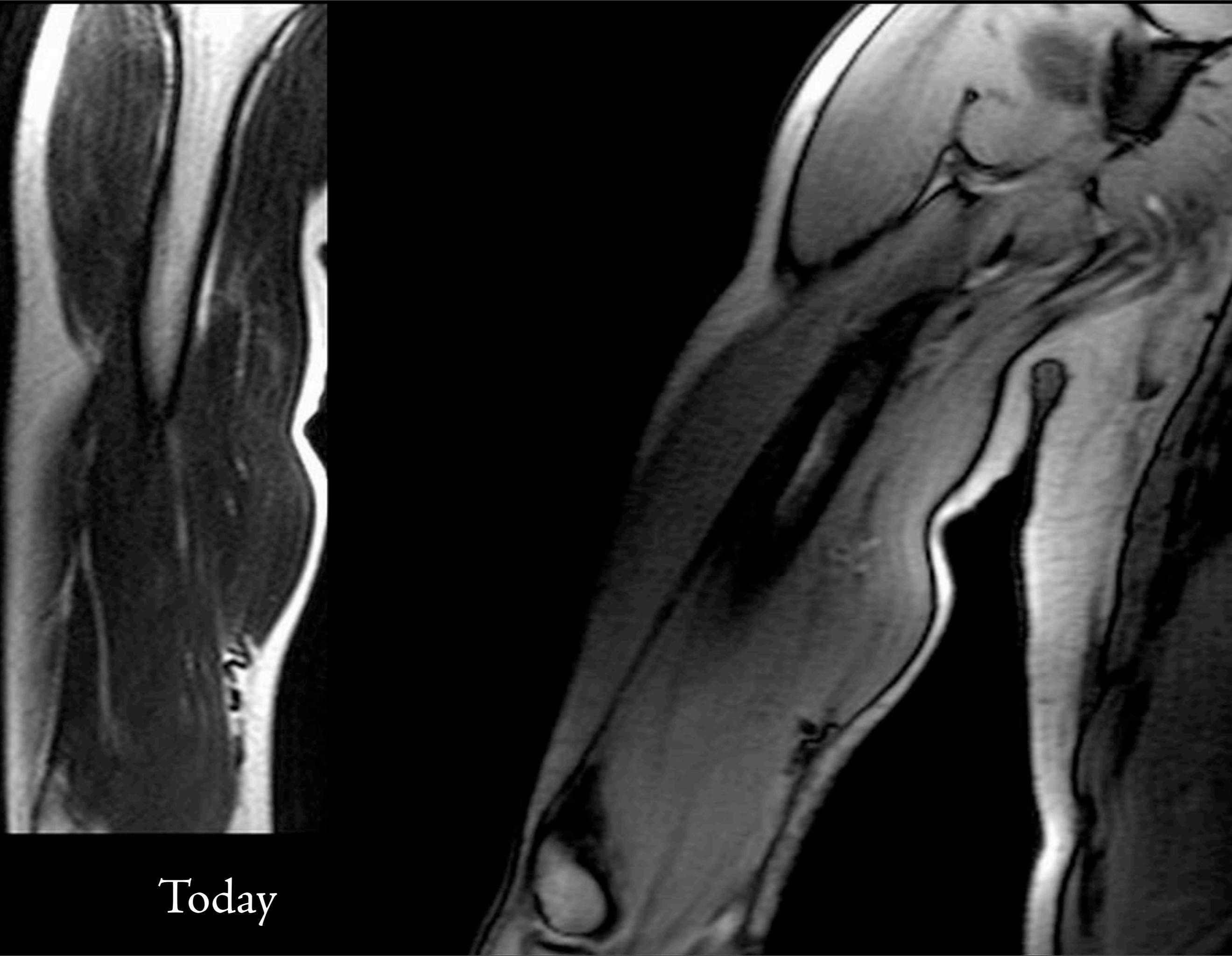
Then health happens.



1000 years ago



100 years ago



Today



Birth

Broken Arm

Back Pain

Fever

Death

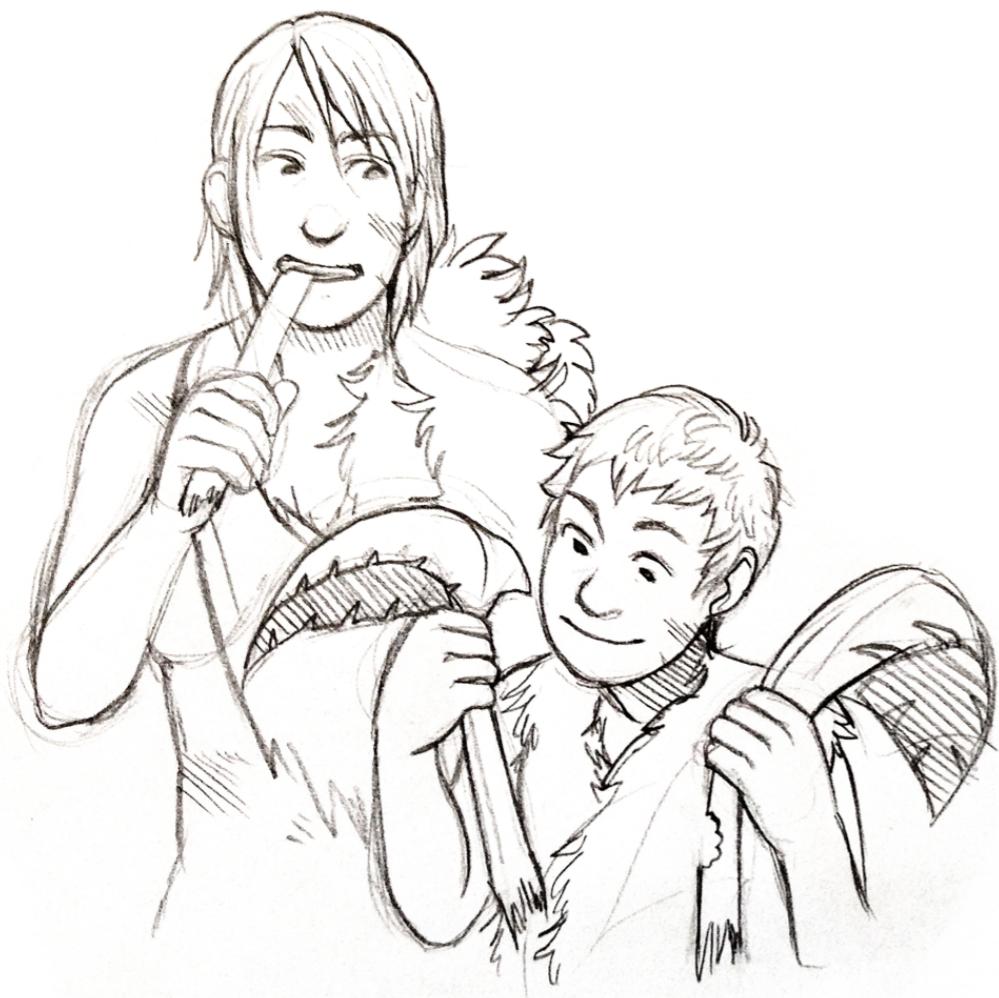
Periodic Issues,
Extreme Intervention



1,000 years ago

Amazing Progress

Today



1,000 years ago



Same Feeling,
Similar Understanding

Today

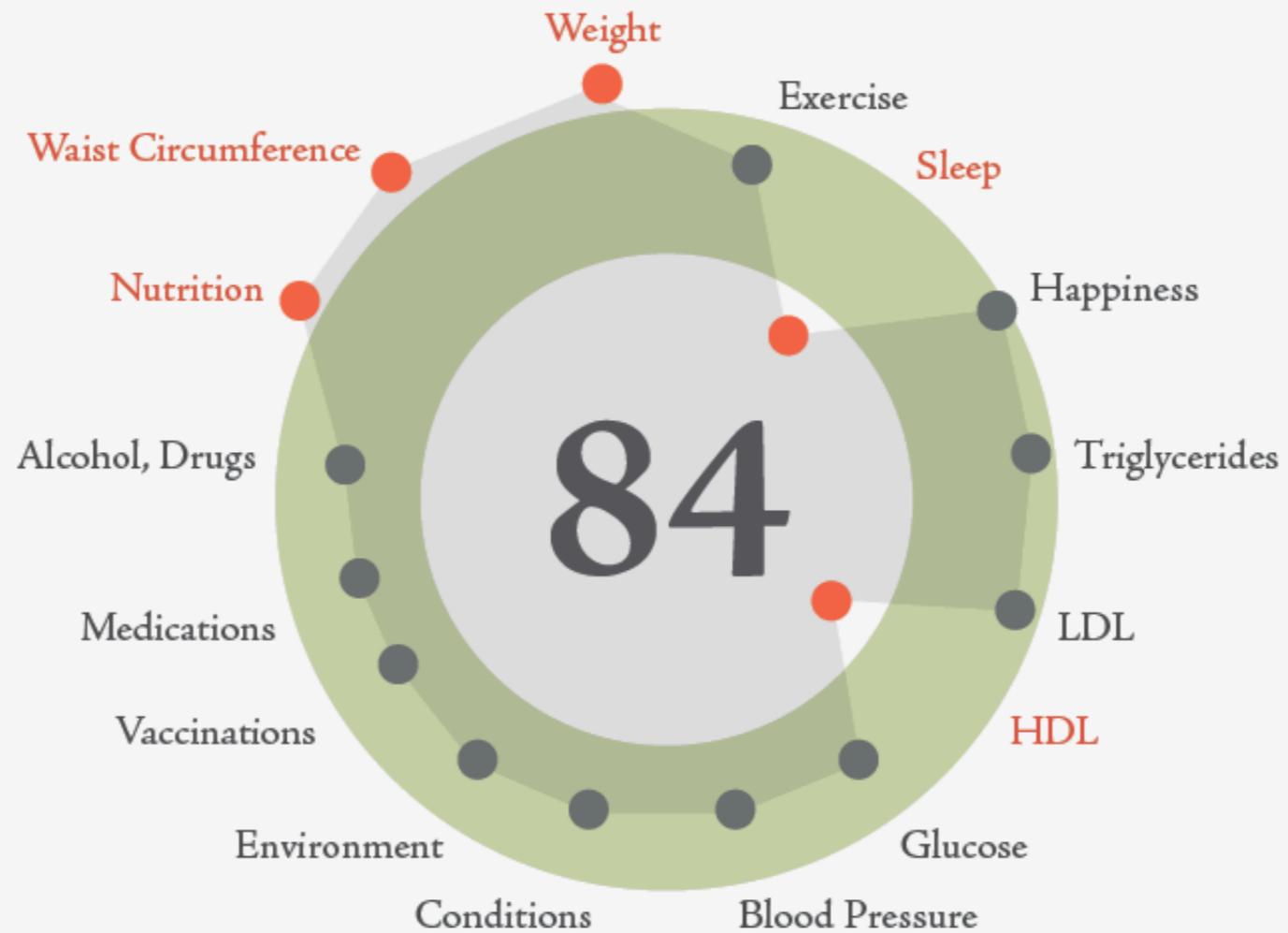




Upcoming Appointment
Checkup on 13.Dec.2012 at 9:30am

Juhani Sonin

40yo Male



Kate Sonin



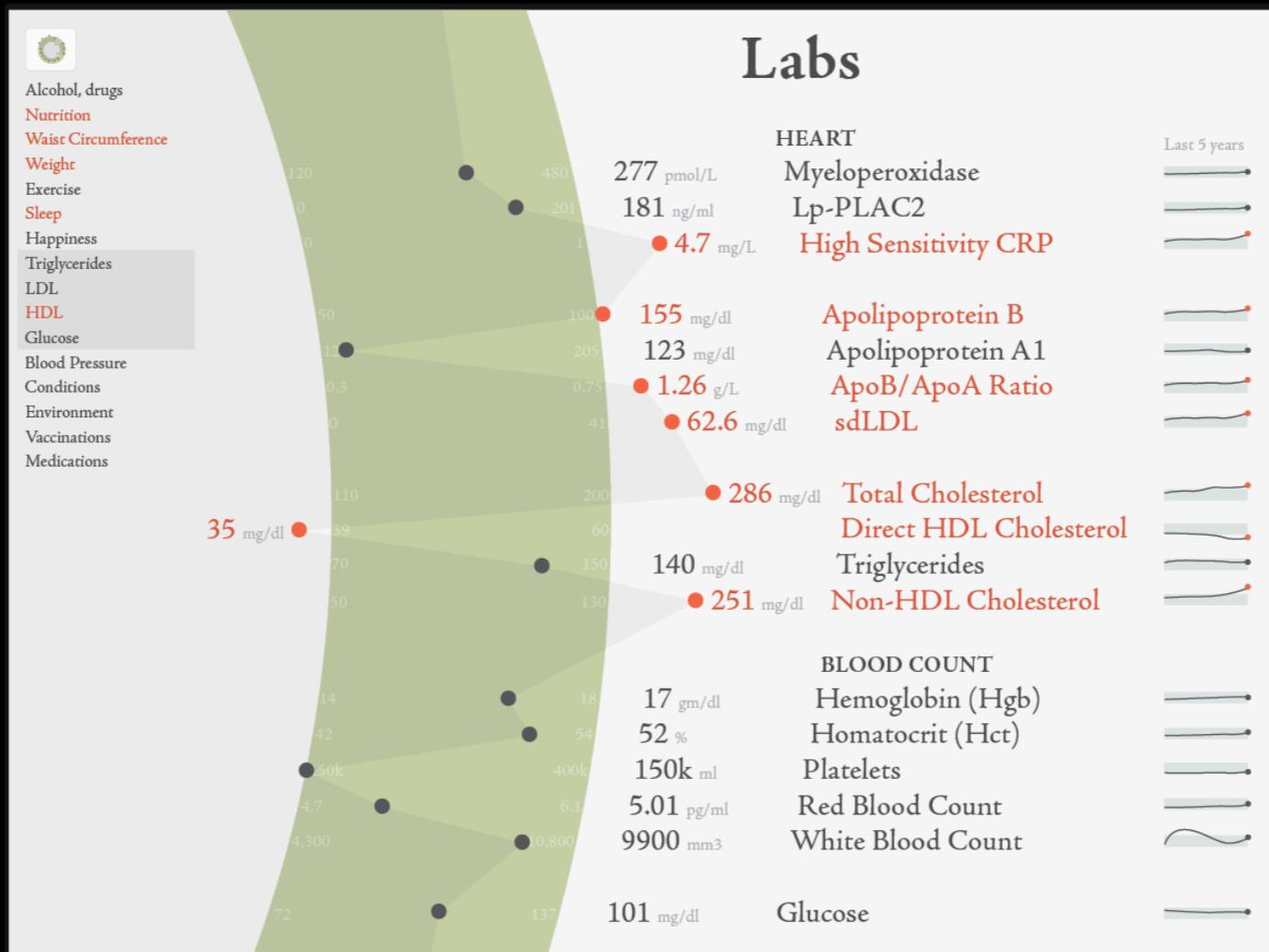
Udo Sonin

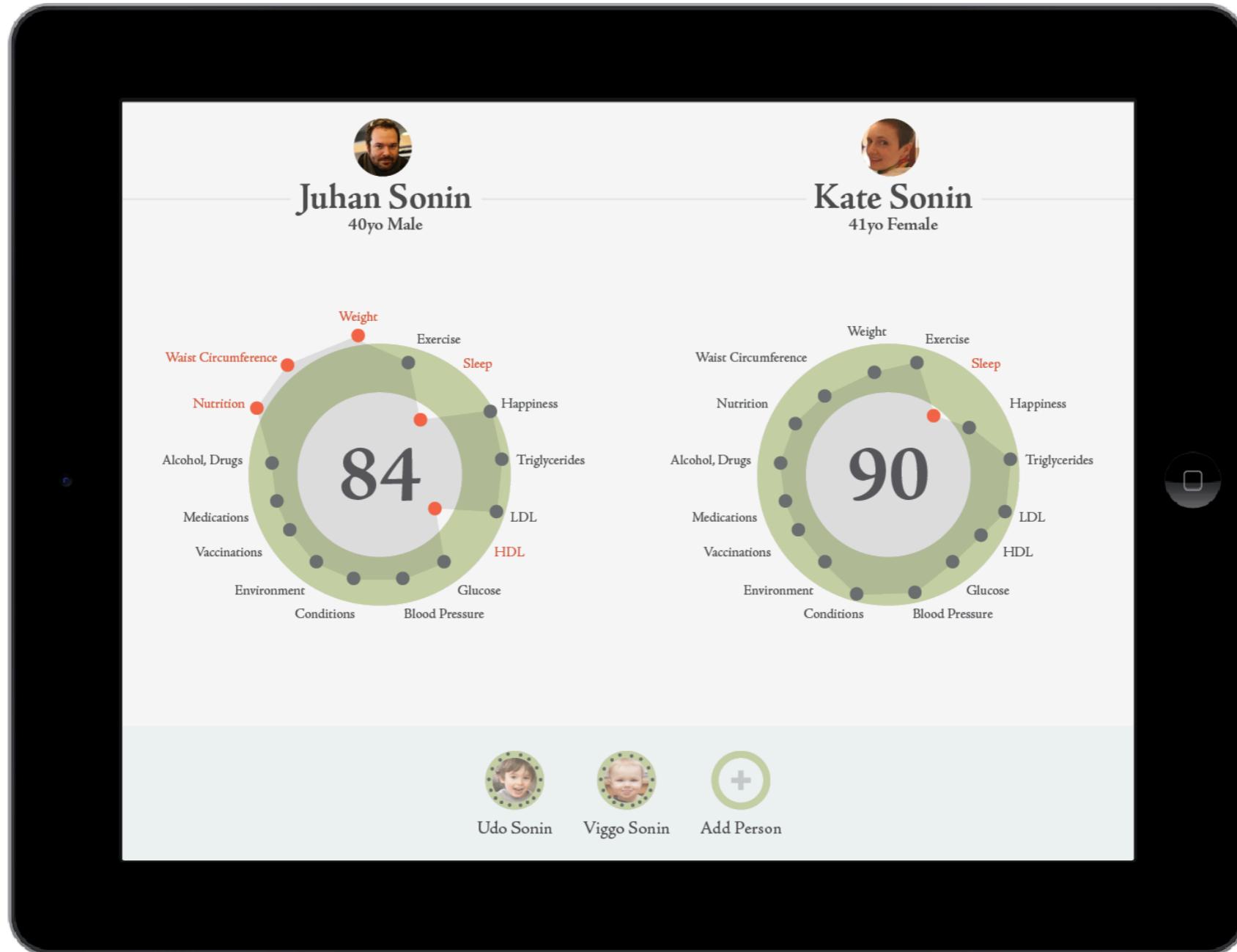


Viggo Sonin



Add Person







83

HEALTH SCORE



90

HEALTH SCORE



97

HEALTH SCORE



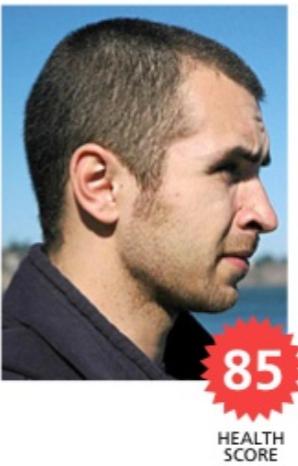
96

HEALTH SCORE



77

HEALTH SCORE



85

HEALTH SCORE



Juhani Sonin

40 years old
1.Mar.1972
Male

5', 10"
208 lbs
36" waist

20/15 vision
A+ blood type
117/79 BP
220 cholesterol

Repaired bicep tendon, right arm
Surgery on 11.Dec.09

No allergies

Megavitamin, 1/day

Fluent in English,
Estonian

22 Surry Rd
Arlington, MA
02476

Juhan Sonin

Katie Sonin

40 years old
22.Jun.1971
Female

5', 4"
110 lbs
25" waist

20/30 vision
O+ blood type
120/85 BP
155 cholesterol

Appendicectomy
Surgery on 28.Feb.93

No allergies

Megavitamin, 1/wk

Fluent in English,
Russian

22 Surry Rd
Arlington, MA
02476

Juhan Sonin
(father), 40

Udo Sonin

5 years old
17.Mar.2007
Male

4', 1"
39 lbs
16" waist

O+ blood type

No history

No allergies

No medications

22 Surry Rd
Arlington, MA
02476

Juhan Sonin
(father), 40

Viggo Sonin

1 year old
11.Aug.2010
Male

2', 8"
26 lbs
12" waist

O+ blood type

No history

No allergies

No medications

22 Surry Rd
Arlington, MA
02476

Juhan Sonin
(father), 40

Epp Sonin

65 years old
9.Jun.1946
Female

5', 0"
129 lbs
31" waist

20/30 vision
AB+ blood type
122/81 BP
200 cholesterol

No history

No allergies

Megavitamin, 1/day
Aspirin, 81mg/day
Zocor, 10mg/day

Fluent in English,
Estonian

104 Follen Rd
Lexington, MA
02476

Single

Aldo Sonin

33 years old
15.May.1979
Male

6', 0"
205 lbs
34" waist

20/20 vision
AB+ blood type
115/70 BP
215 cholesterol

No history

No allergies

No medications

Fluent in English

1205 Embarro Dr
San Mateo, CA
92005

820 Mass Ave, #410
Arlington, MA

Agnes Morrison

89 years old
31.Mar.1921 to
12.Nov.10
Female

5', 0"
110 lbs
28" waist

30/30 vision
A+ blood type
135/86 BP
195 cholesterol

Dementia
3 more conditions

No allergies

Galantamine, 20mg/
day

Donepezil, 10mg/d
5 more medications

Fluent in English,
Estonian, French,
German

820 Mass Ave, #410
Burlington, MA

Ain Sonin

73 years old
24.Dec.1937 to
21.Aug.10
Male

5', 9"
142 lbs
32" waist

20/30 vision
O+ blood type
140/90 BP
162 cholesterol

Dementia
Alzheimers (stage 2)

No allergies

Donepezil, 10mg/d
5 more medications

Fluent in English,
Estonian, Swedish

42 Mall Rd
Atria LongMeadow
Apt #110
Burlington, MA

and the Problem is...⁺⁺

Increasingly complex systems

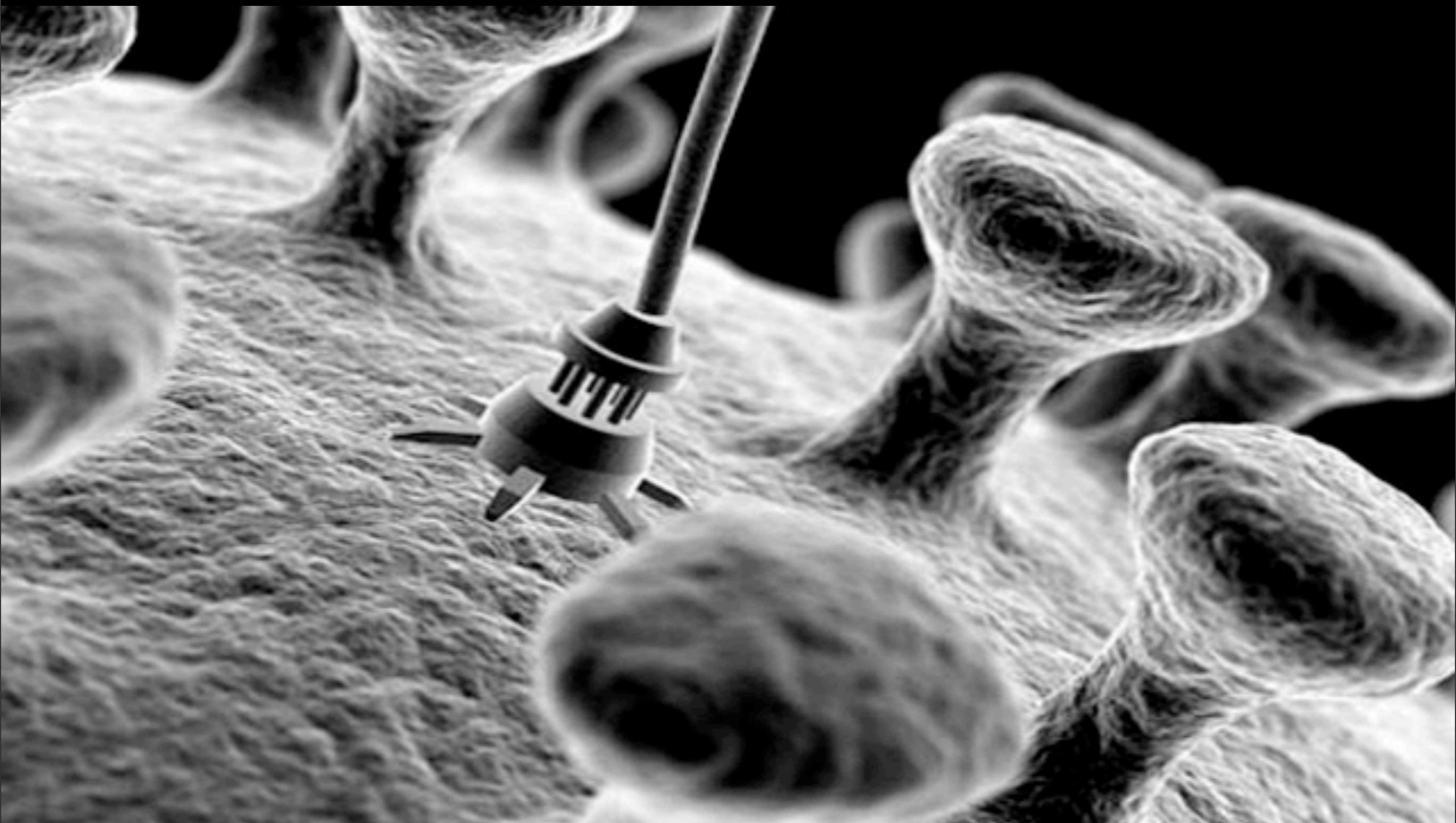
- ♦ Tool and Methodology gap

Decision makers are swamped with conflicting data

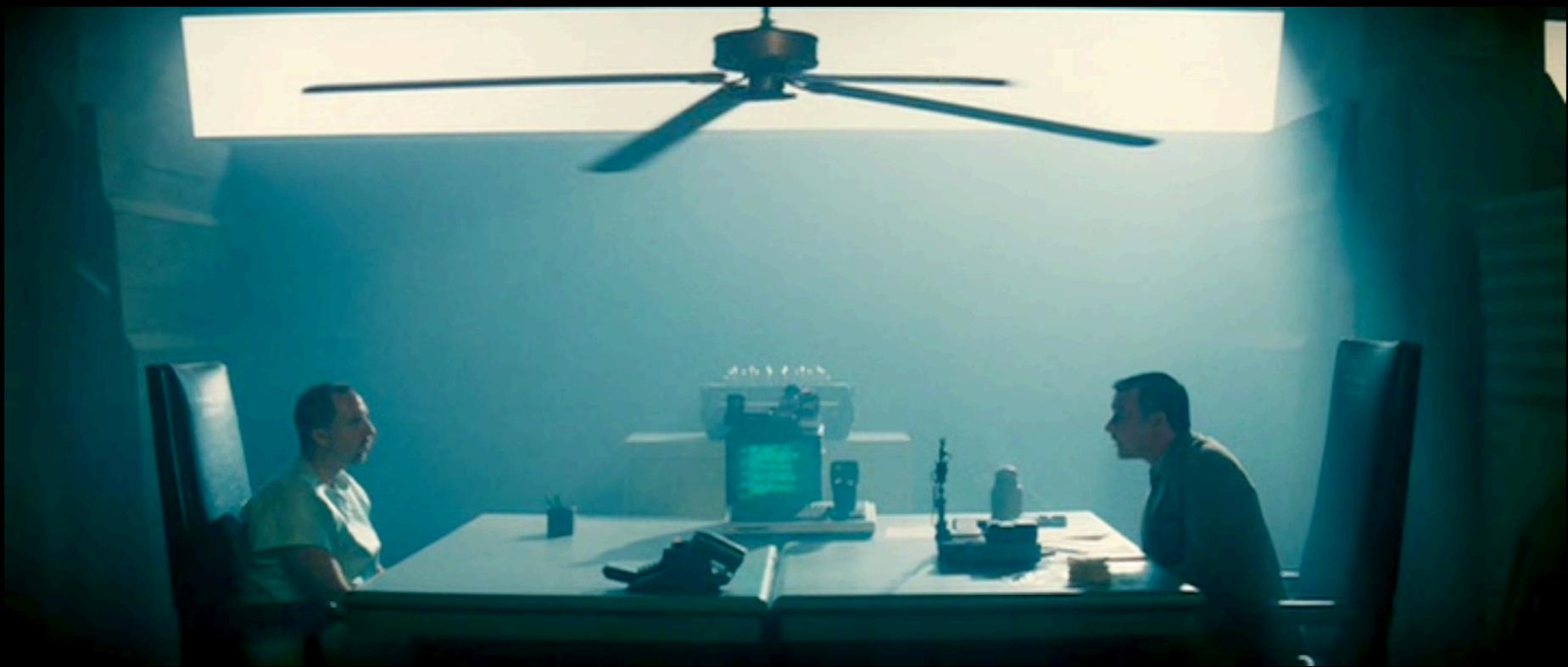
- ♦ Our work is increasingly multi-dimensional (not a flat decision space)

Artifacts driving decisions need to be coordinated,
presented

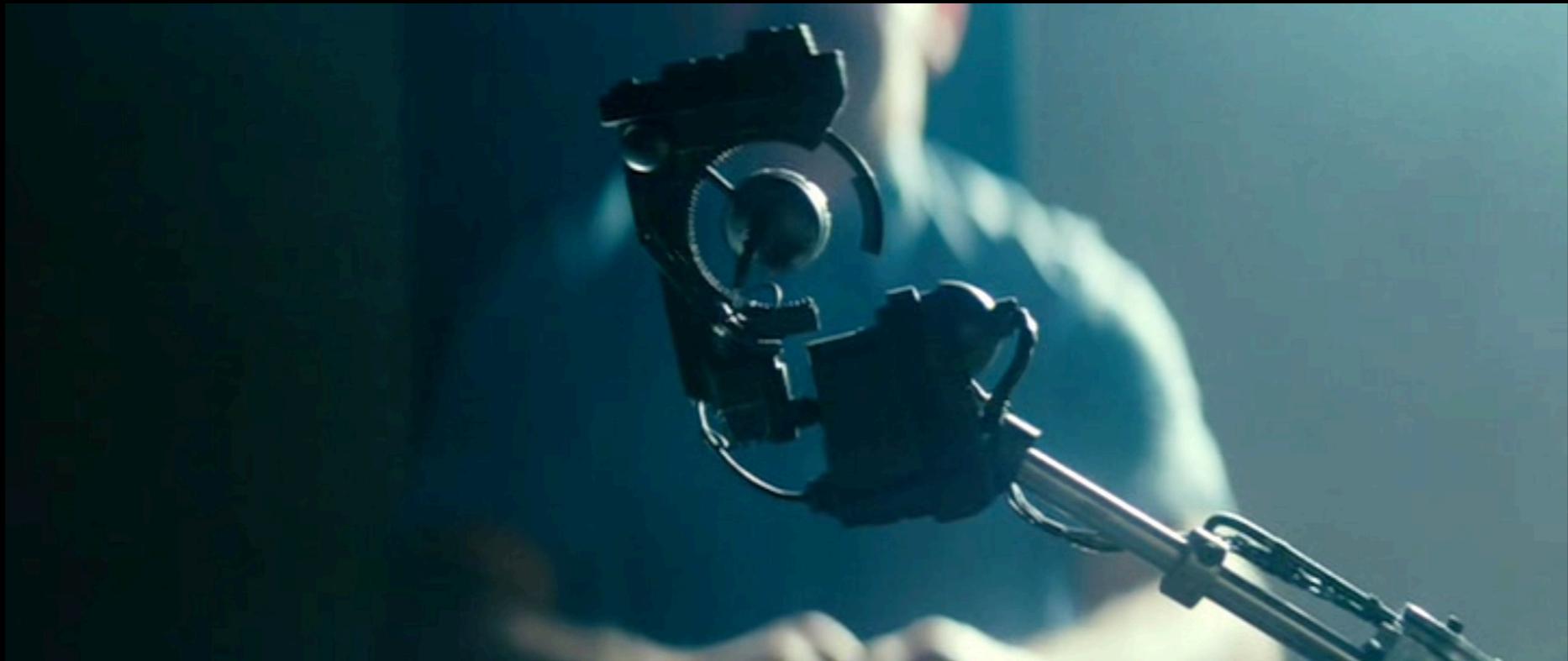
Minimal transparency into key health metrics

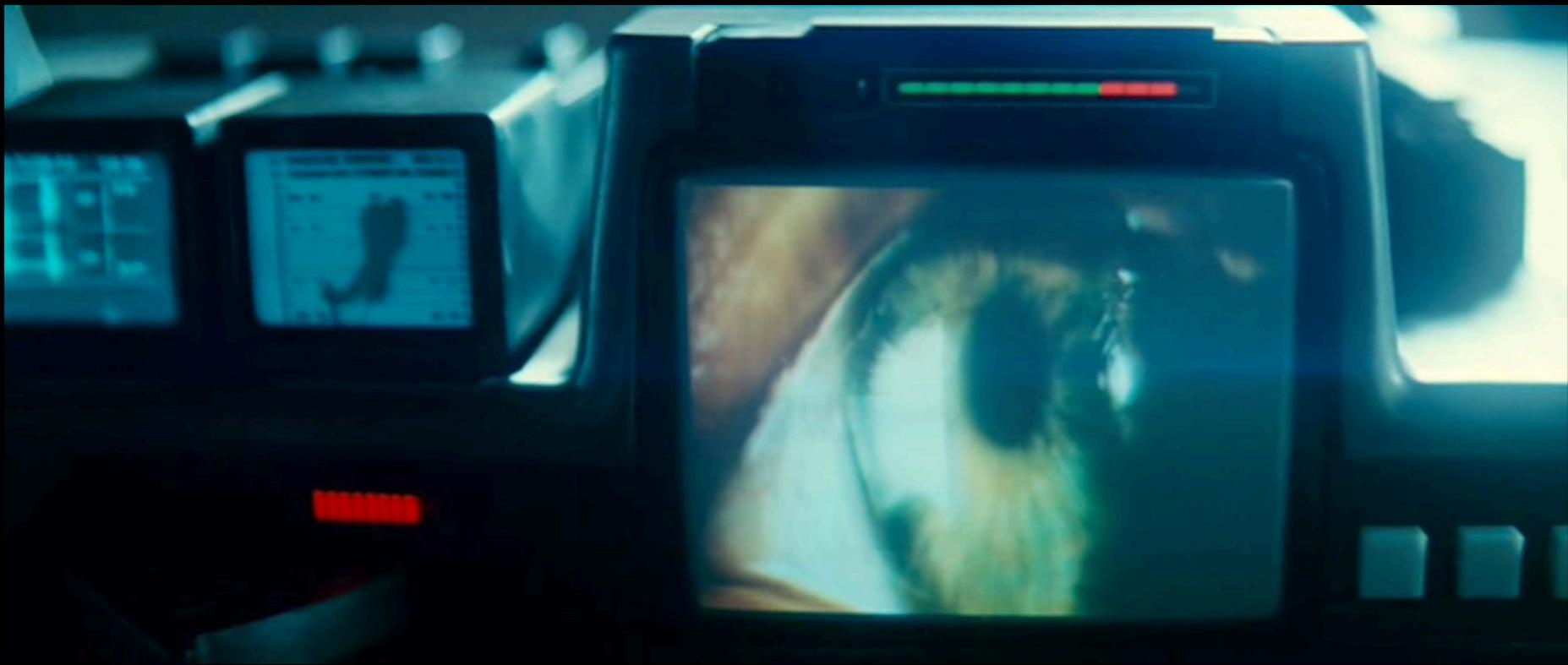


The Surveillance Invasion

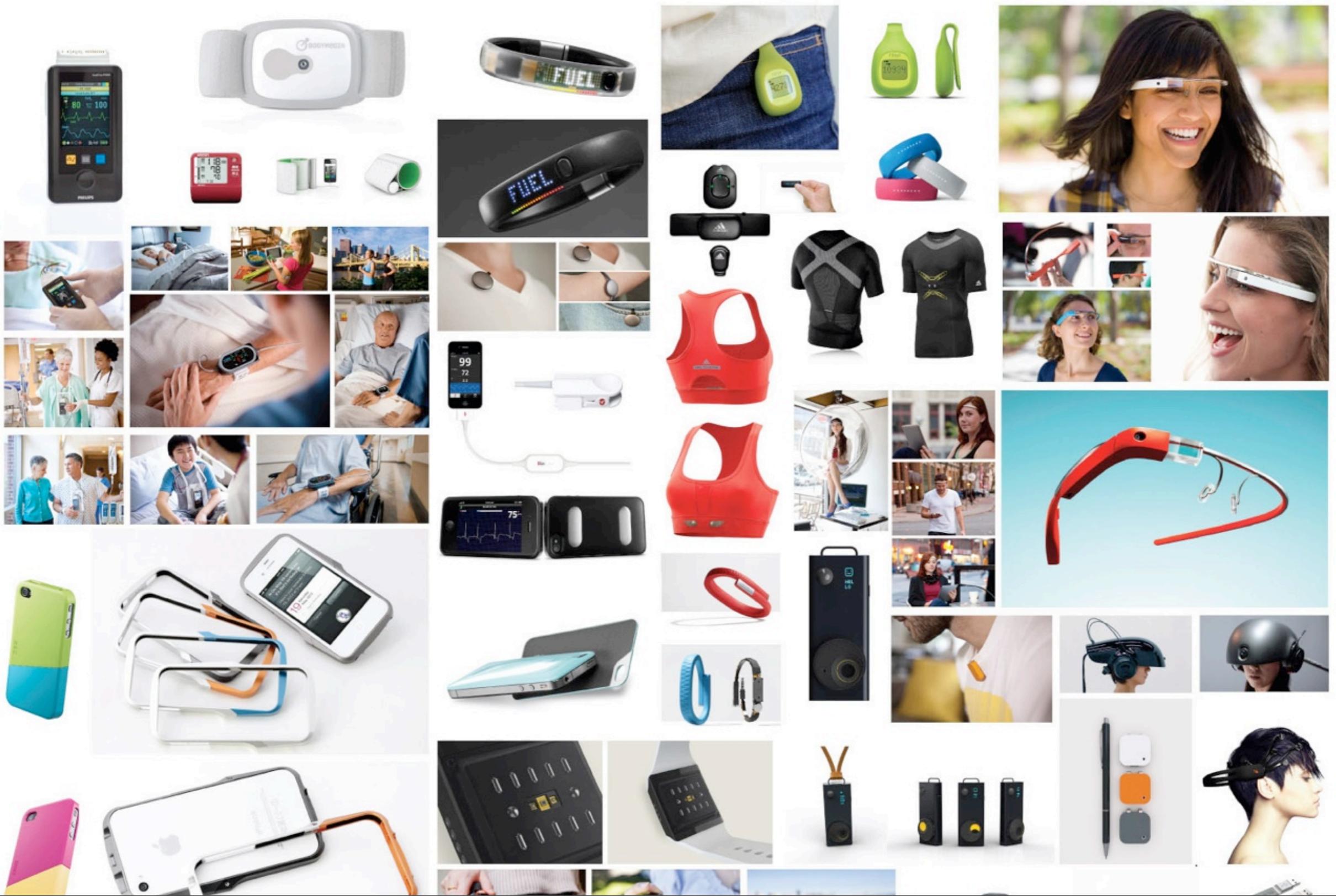








Smart Sensors





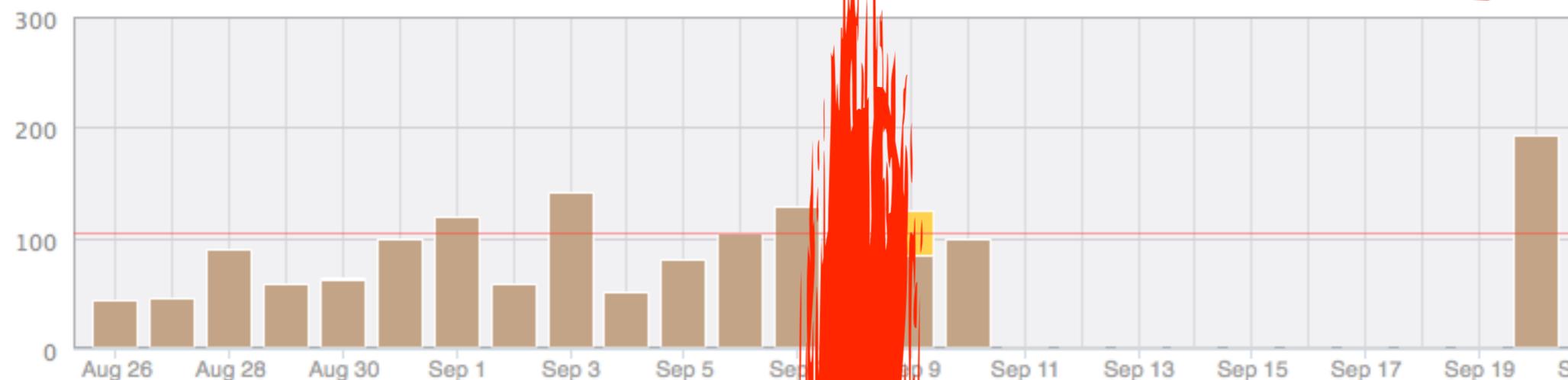




Physical Activity

1:45
HRS:MINS1:22
HRS:MINS28 Day
Average1:20 of 1:30 ■ Moderate Activity
0:02 of 0:15 ■ Vigorous Activity

1:22 of



Steps Taken

15000
STEPS55
STEPS

Sleep Duration

8:00
HRS:MINS6:07
HRS:MINS

Weight

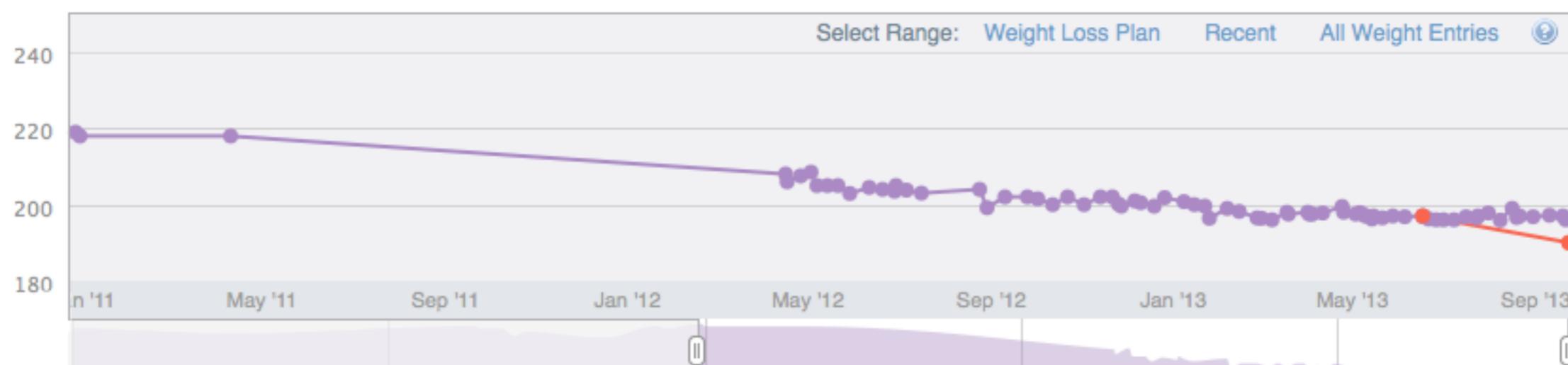
Current Weight

196
LBS

I have lost

1
LBS

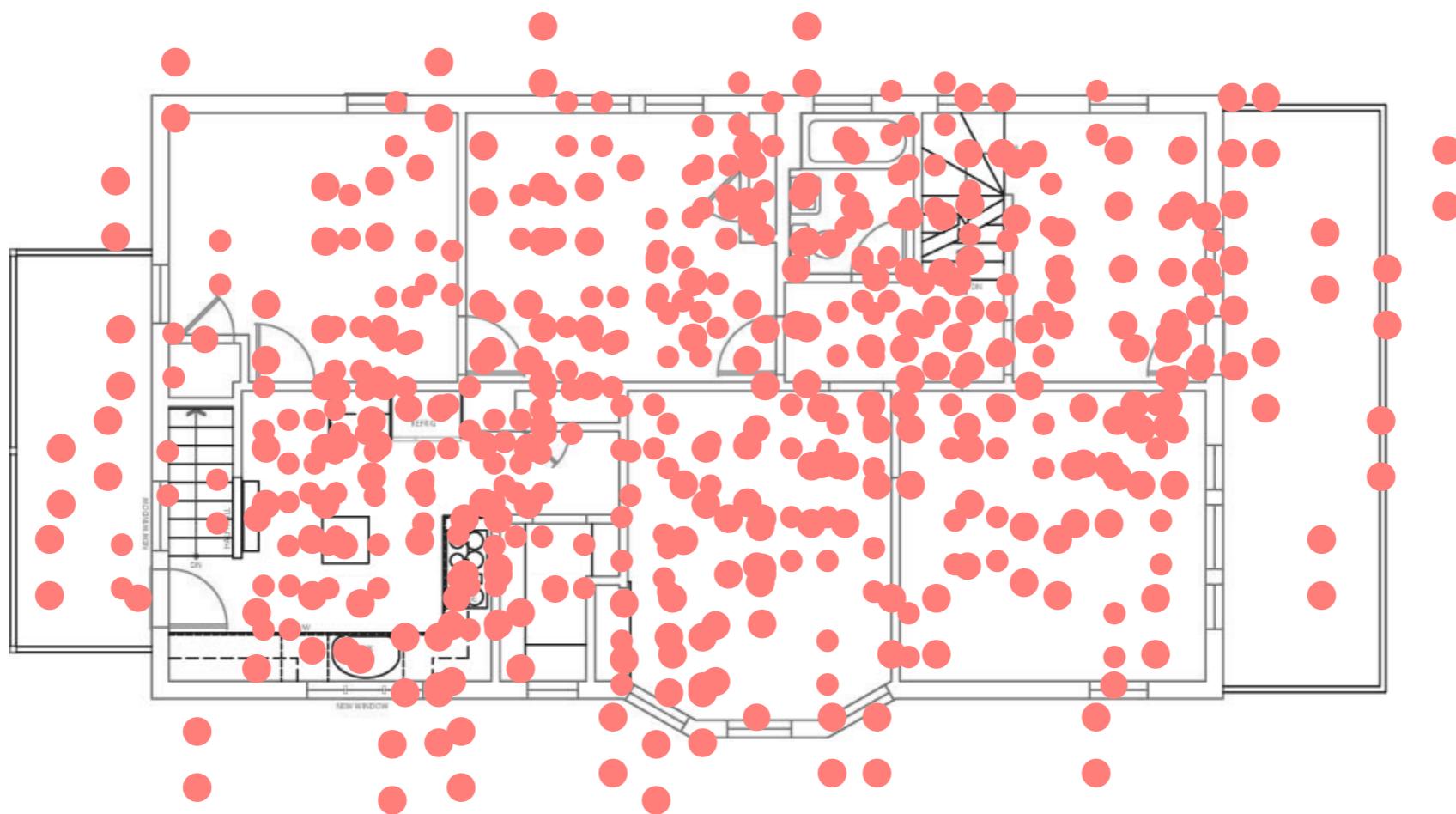
SINCE JUN 17, 2013

Weight Loss
SummaryCurrent
196 lbsGoal Weight / Date
190 lbs by Sep 23, 2013Current Progress
97 days - 1 lbs lostRemaining
1 days - 6 lbsAll Time
21 lbs lost

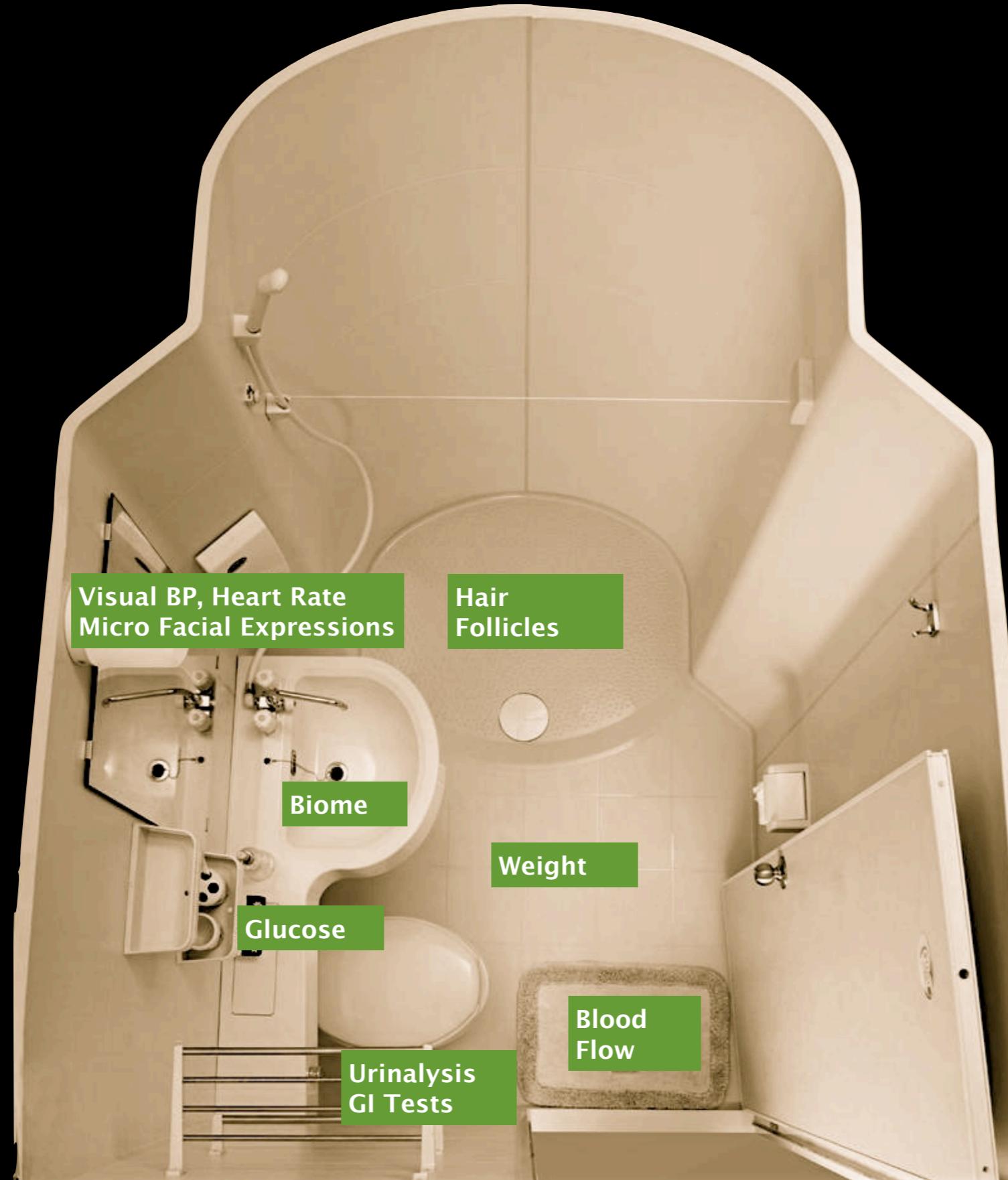
Life first.

Health a distant second.

Sensors throughout











Non-invasive hyper-surveillance will eventually produce a **majority** of all personal “physiologic signs”.

It just happens.

It must be designed to feel... *wonderful.*

Think more about LIFE.

Think less about “health” + “security”

My health and my family's health is actively guarded.

\$1, \$100, \$1000/month

Focus on your dreams.



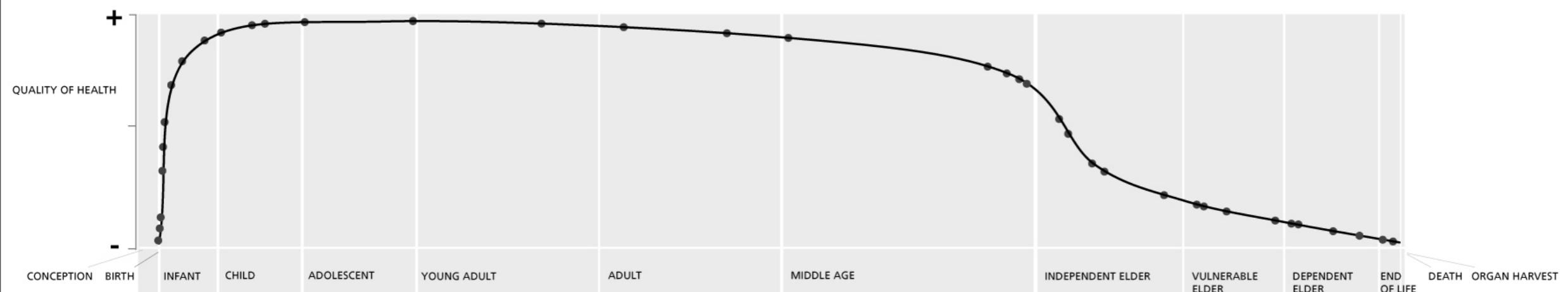
Scary? Sorta.

But it's coming.

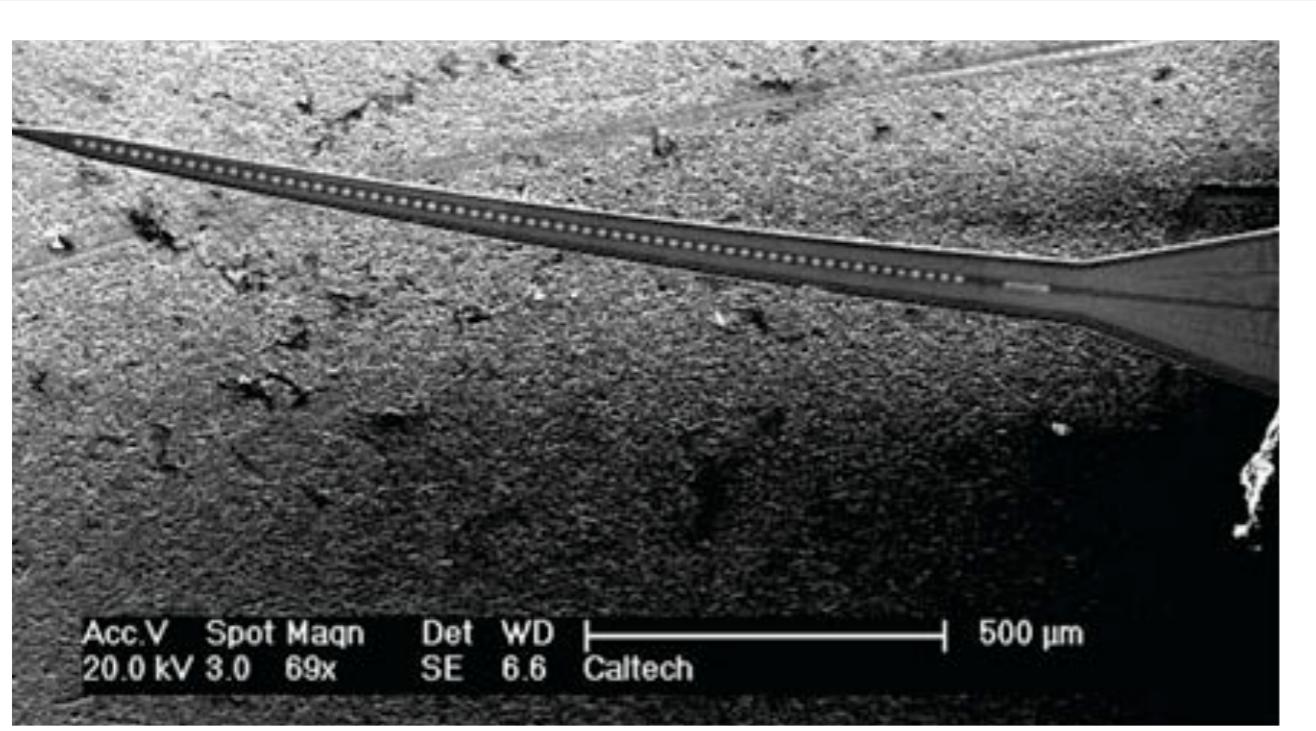
Stage Zero Detection

20th century

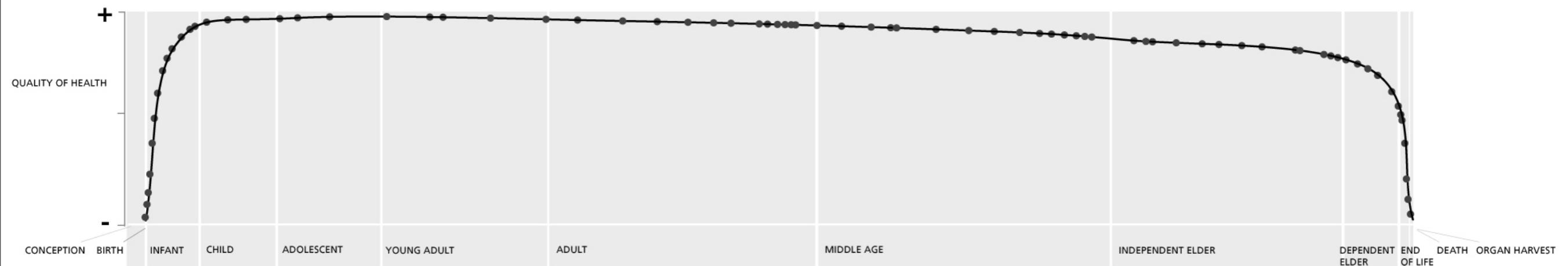
Aging Cycle



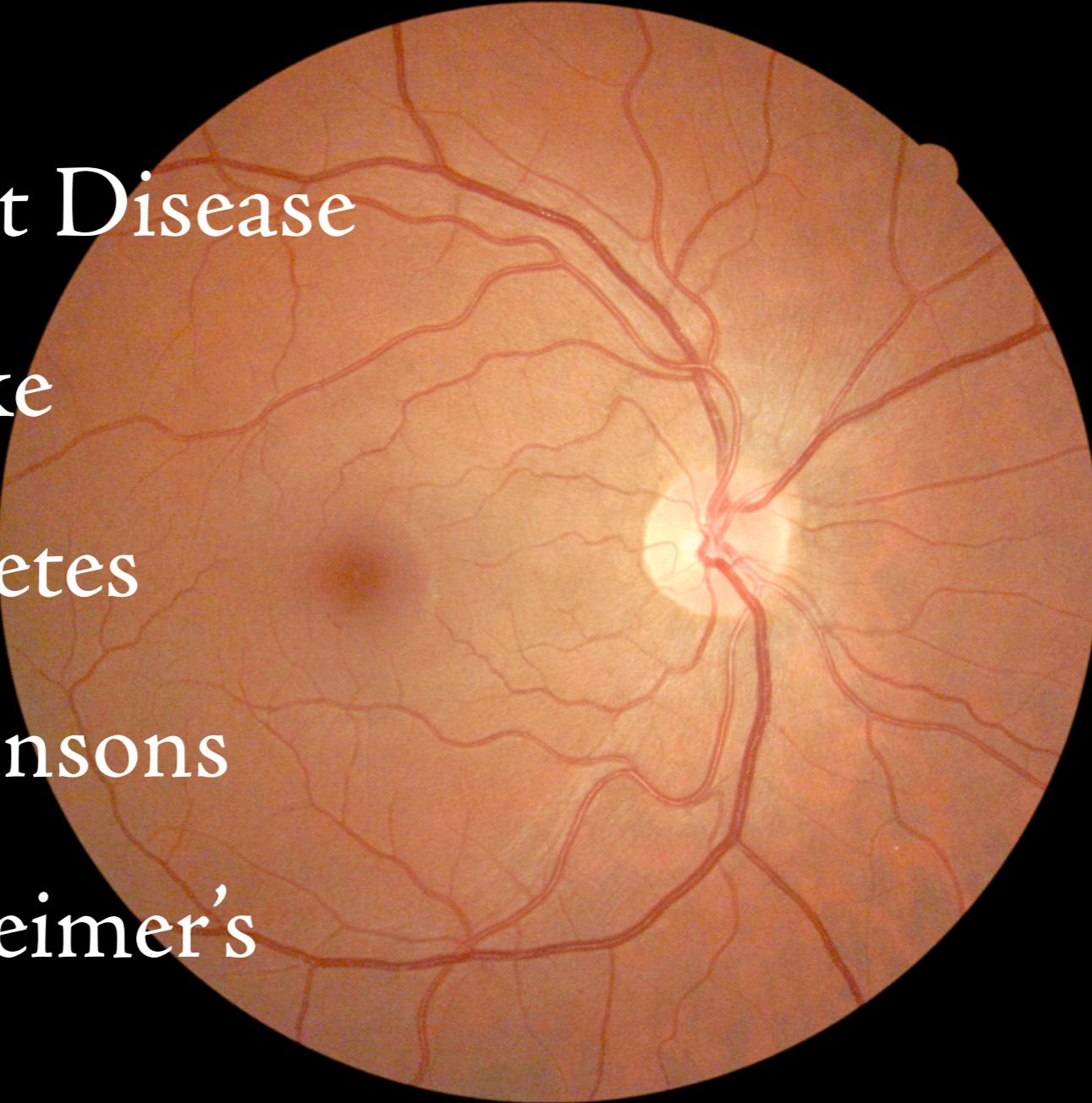
Diminishing Health, Gradual Deterioration



iGeneration Aging Cycle



Sustained Good Health, Very Rapid Deterioration



Heart Disease

Stroke

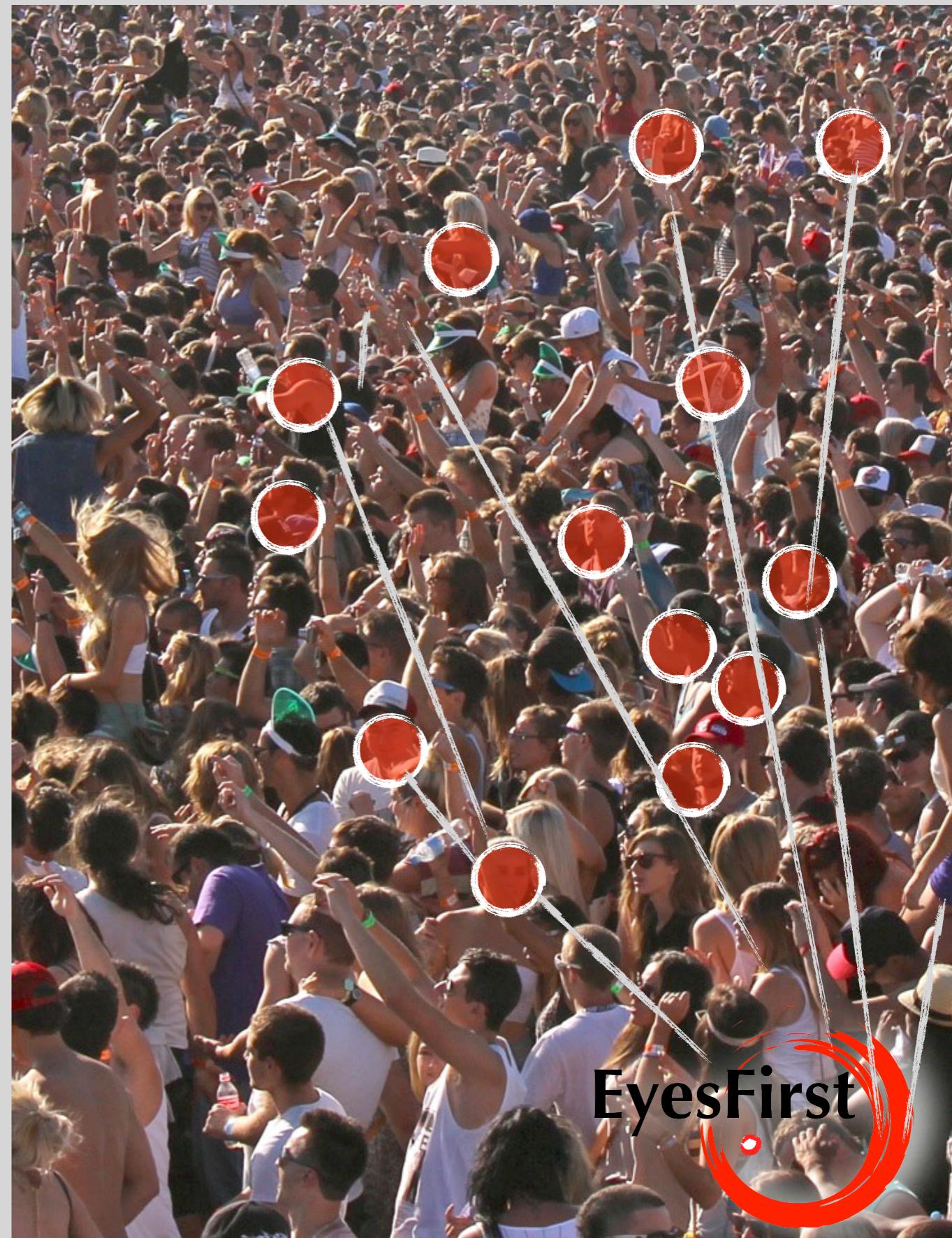
Diabetes

Parkinsons

Alzheimer's



NETRA



\$100k







Source
(Courtesy of Winchester Hospital. Do not copy)



Hospital monitor

ECG



Color-amplified (x150)





The nose

and breath

are windows
into our health





Sarah A Kaiser

24yo (Jun.23.1989) Female
44 Mansfield Street
Sommerville, MA 02143
GP Dr. Gregory Menon

Personalized Flu Treat

100mg tablet taken orally once a day

Mon

Jun.14th 2013



*Personalized
Flu Treat
100mg tablet*

Tues

Jun.15th 2013



*Personalized
Flu Treat
100mg tablet*

Weds

Jun.16th 2013

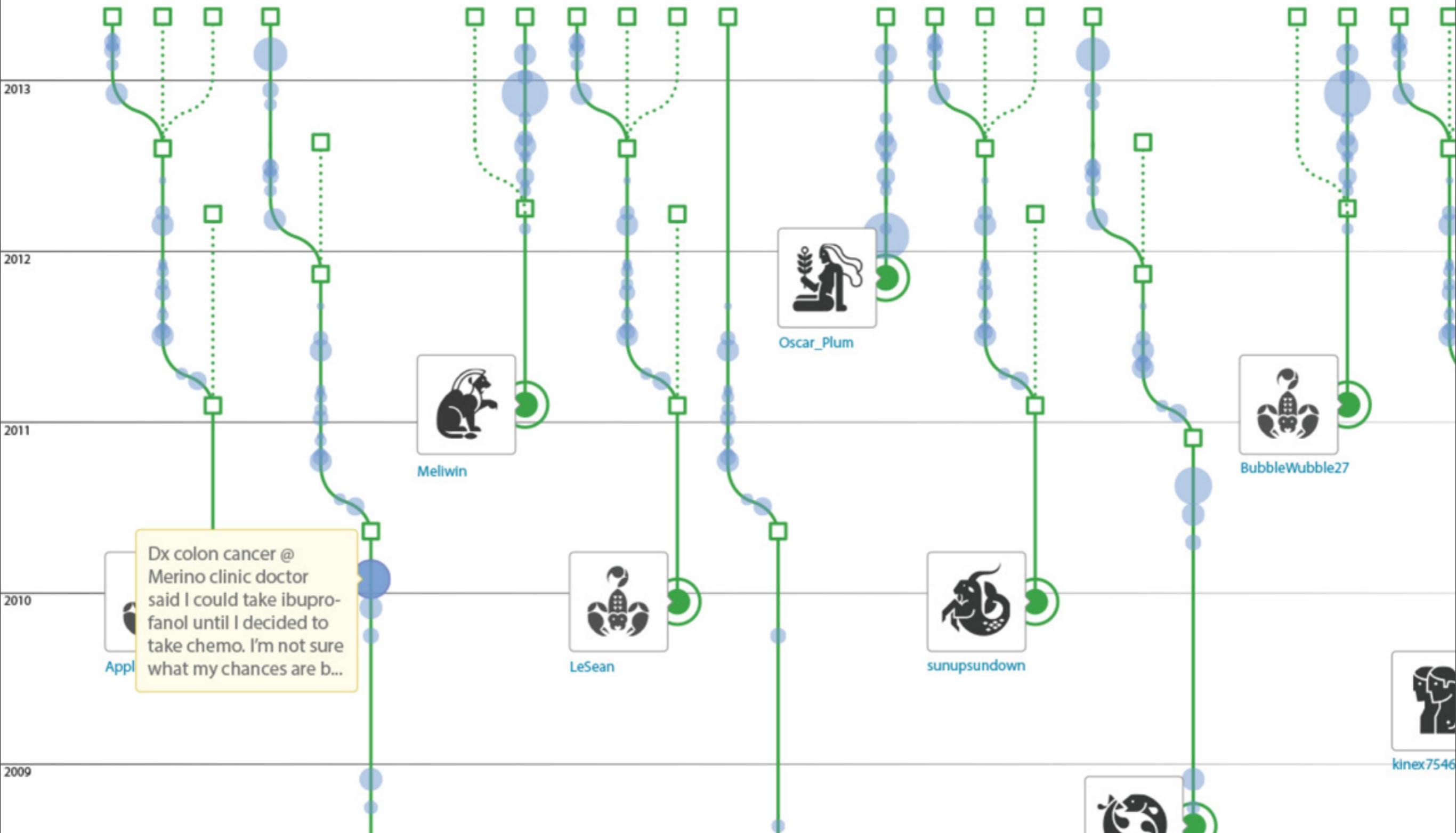


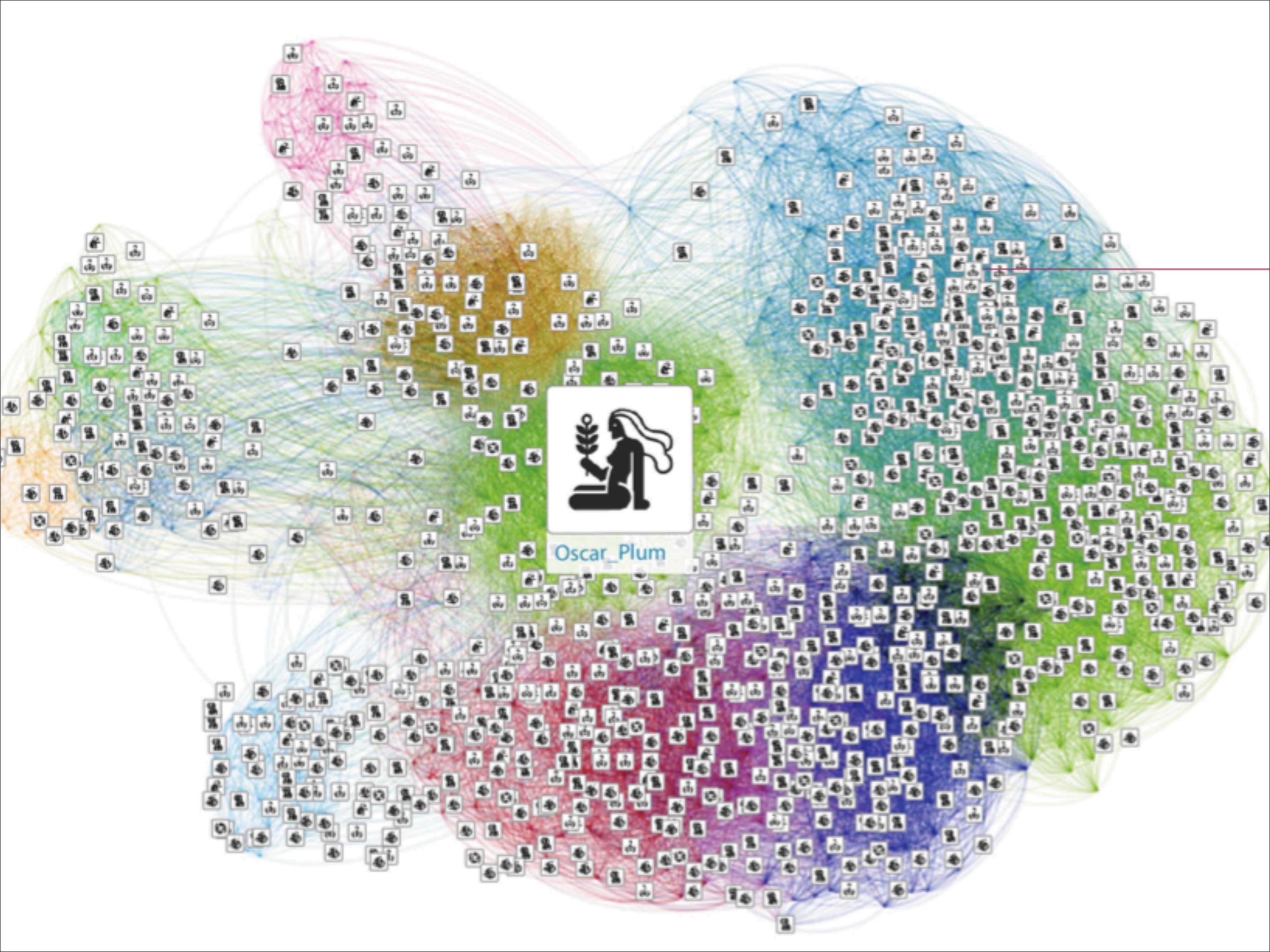
*Personalized
Flu Treat
100mg tablet*



From Policy
to Pixel
to Protein







WTF?

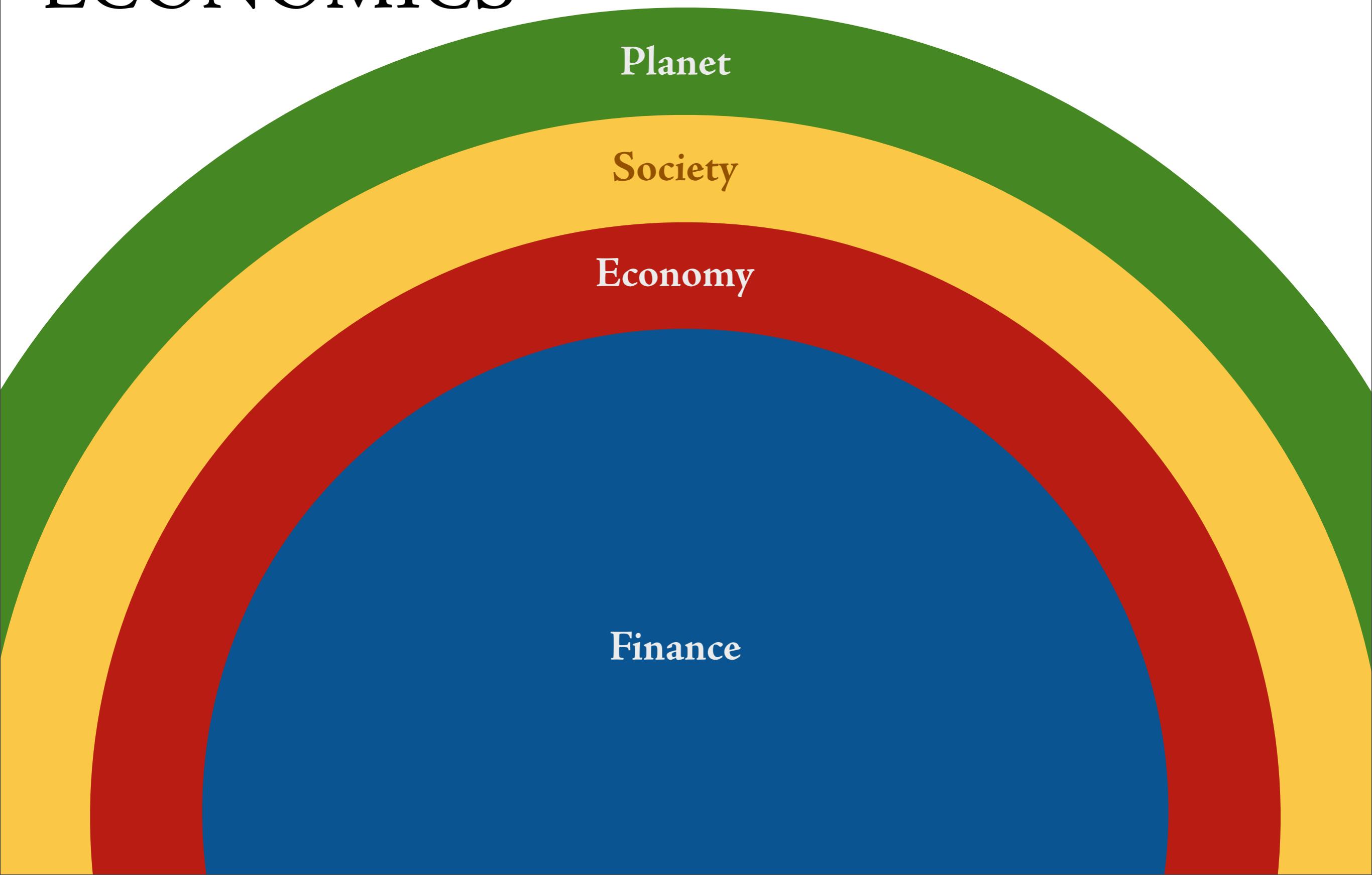


Next up for designers and engineers:
Determine the Top 100 health signals.

Get in the prediction game.

Get in the policy game.

ECONOMICS



BIONOMICS

Fashion

Commerce

Infrastructure

Governance

Culture

Nature

Start with the 30M uninsured.

MORAL OF THE STORY

Invisible detection...+

or when it is visible,
it's beautiful to engage with.

Integrated into our Daily Life

+

Increased Quality of Life

=

Culture Jamming our Denial of Health (for good)



TODAY'S ACTIVITIES = -2.5
For a life expectancy of 72

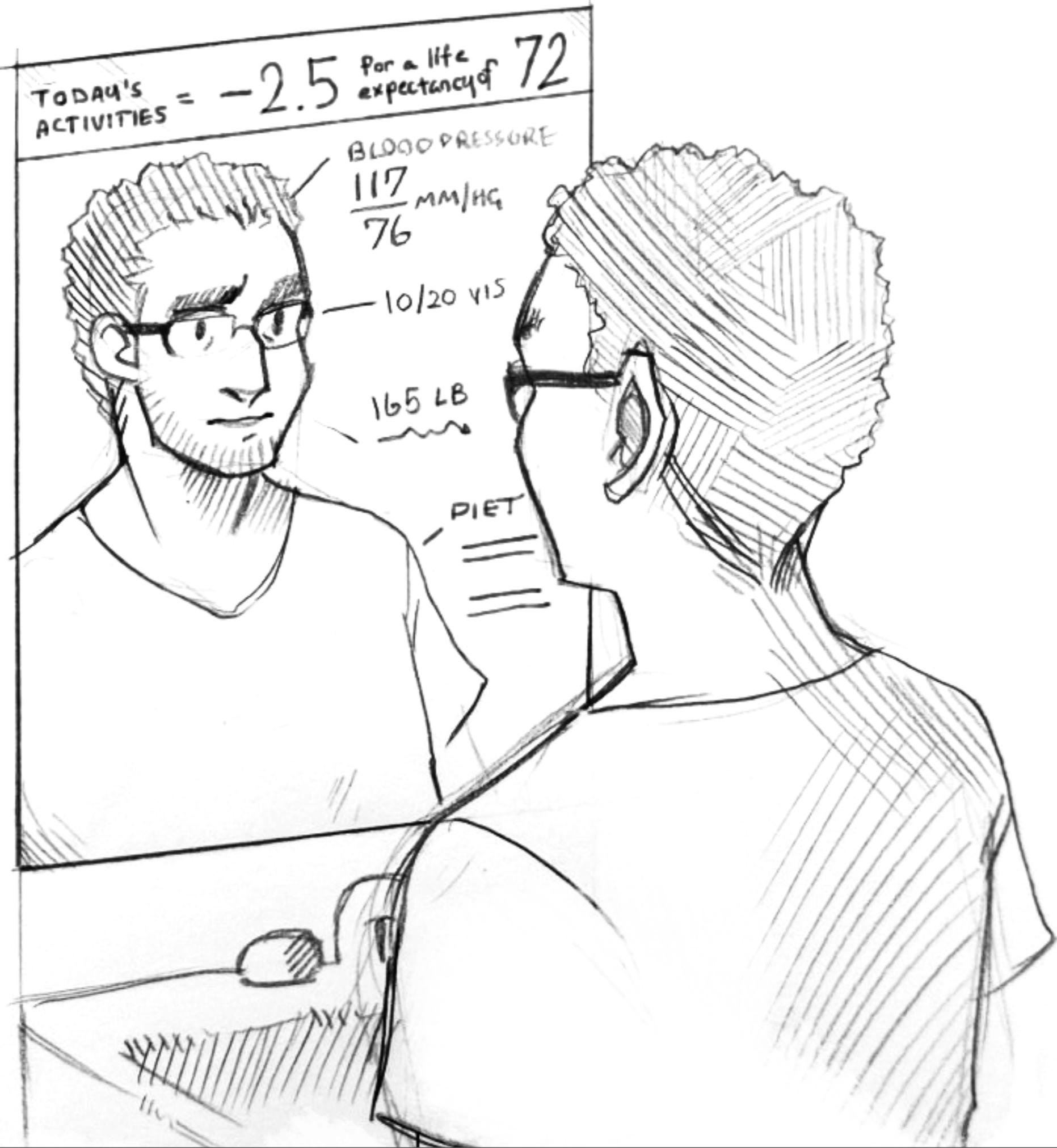
BLOOD PRESSURE

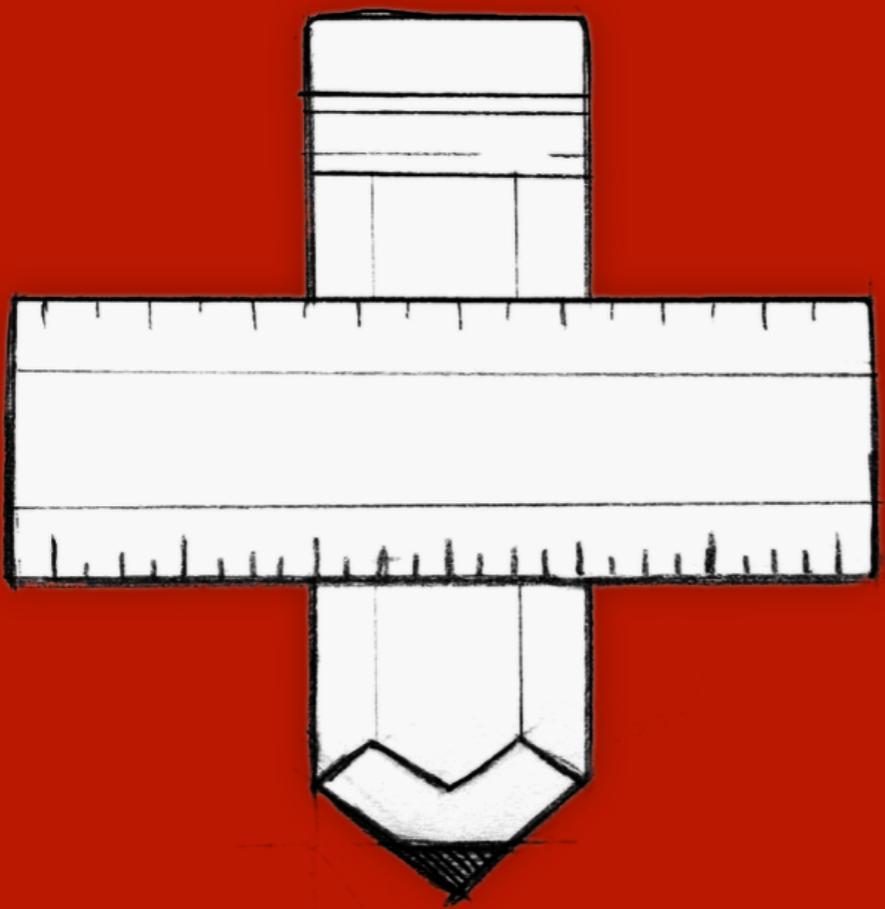
$\frac{117}{76}$ MM/HG

10/20 415

165 LB

PIET





Design is Medicine

Life first. Health a distant second.

Juhan Sonin
juhan@goinvo.com
Sep 2013

Special thanks to:

Harry Sleeper,
Sarah Kaiser,
Roger Zhu,
Eric Benoit,
Ben Salinas,
Jon Follett,
and
Dirk Knemeyer

HEALTH AXIOMS



On indiegogo today
igg.me/at/healthaxioms