

Wearables - A New Chance for Private Insurance companies from the underwriting view

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Wearables - The New Chance for Private Insurance companies from the underwriting point of view

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| 1 | Introduction and definition |
| 2 | Current Situation |
| 3 | Chances and challenges |
| 4 | Possibility for Insurers |
| 5 | Take home message |

What You Wear Could Affect Your Life Insurance Premiums



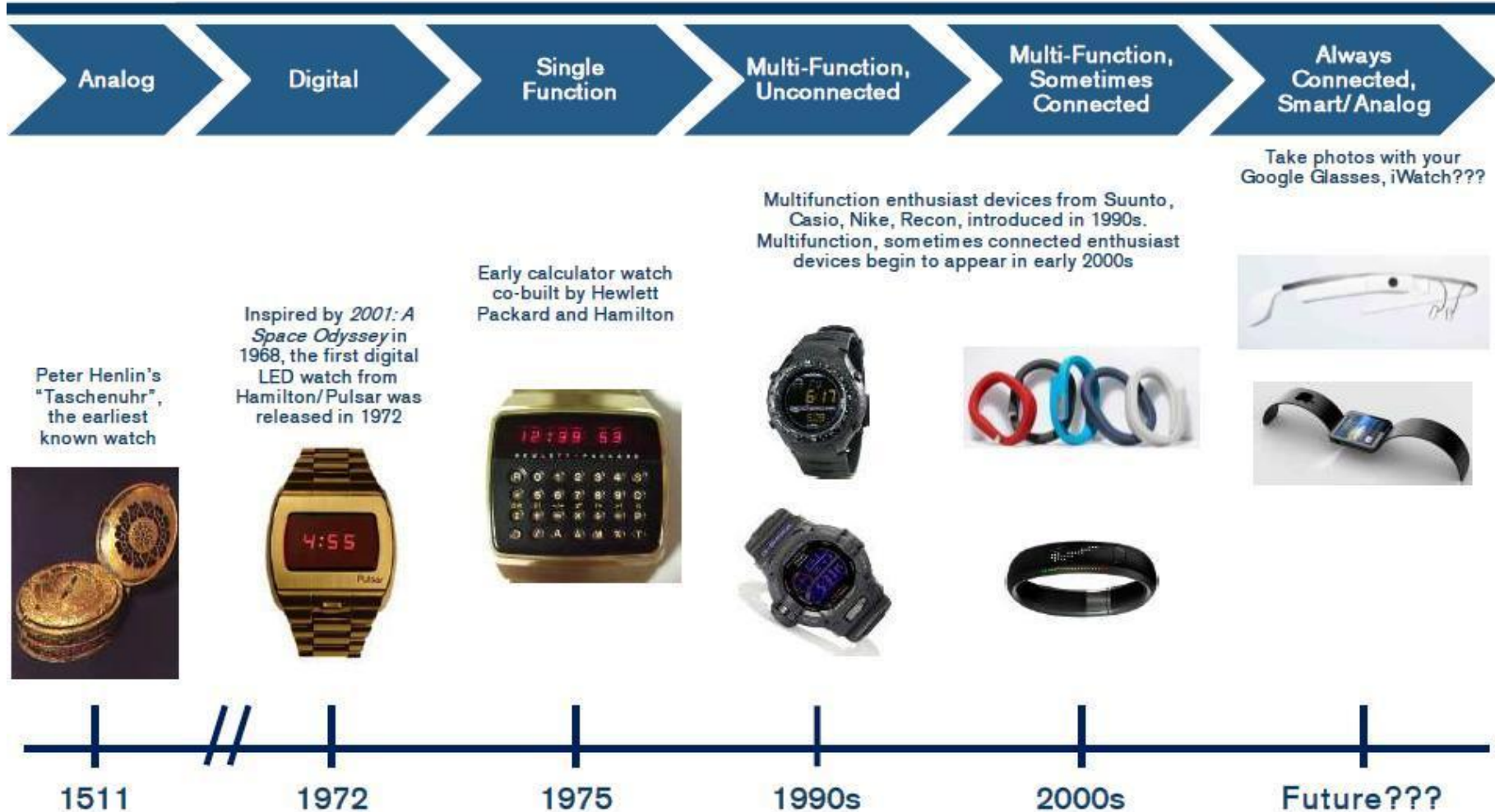
Posted on October 21, 2015 in Life Insurance Canada News



Earlier this year, John Hancock Financial, an American subsidiary of the Canadian insurance company Manulife Financial, made headlines in the life insurance industry when it started to hand out a Fitbit to its new life insurance policyholders.

A Fitbit is an electronic wristband that can track the wearer's daily physical activity. This includes being able to sense how many steps a wearer takes, the number of calories burned, floors climbed, heart rate levels and the intensity/duration of any other physical activity the wearer performs.

The Evolution of Wearables



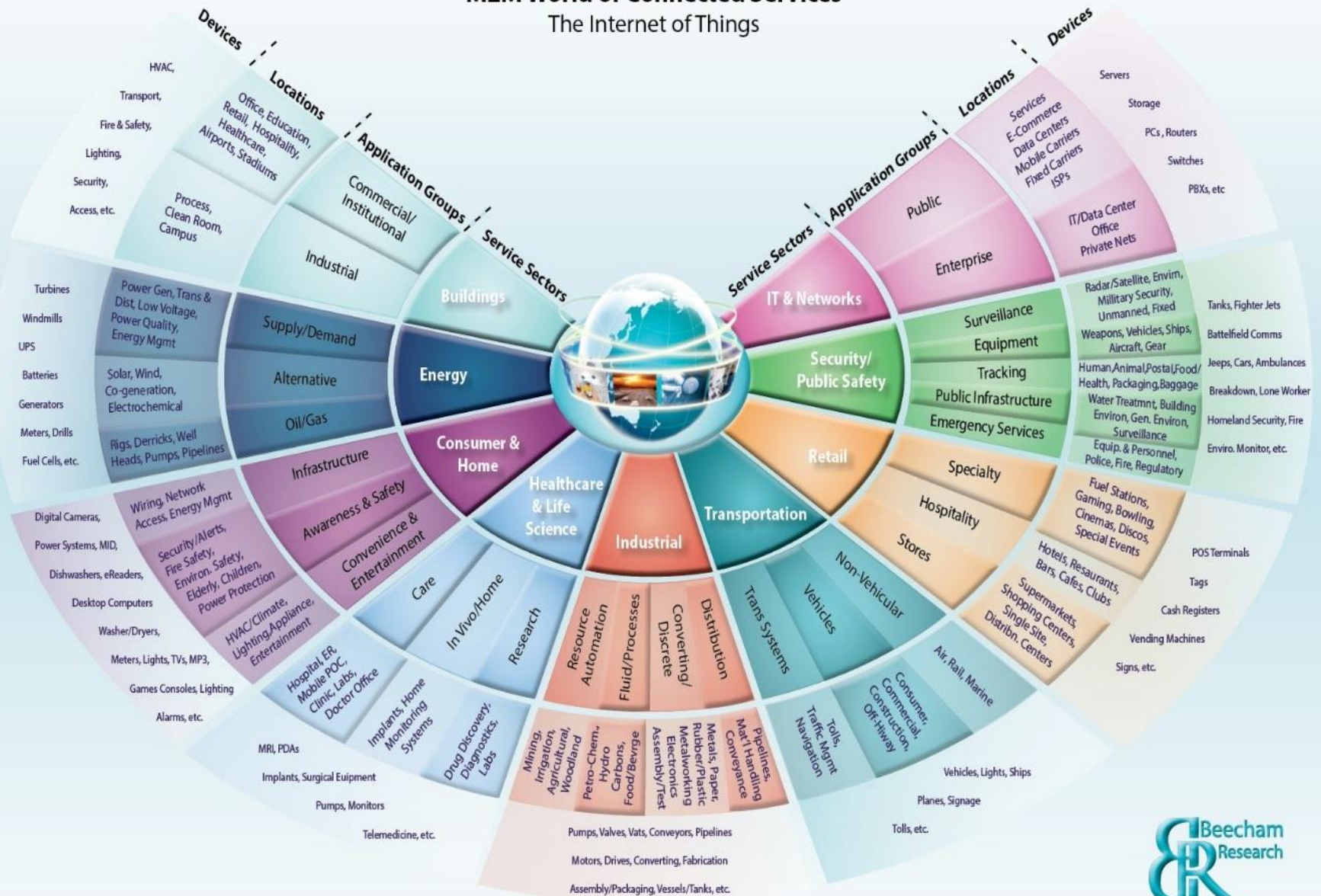
Facts

- ❑ In 2020: 30 billion things will be connected (3 trillion volume of sales)
- ❑ In Dec. 2014 there were 284 wearable devices with an average price of \$ 350. (actually they are all data collectors)
- ❑ 76 million wearables were sold in 2015, 173 million are expected in 2019

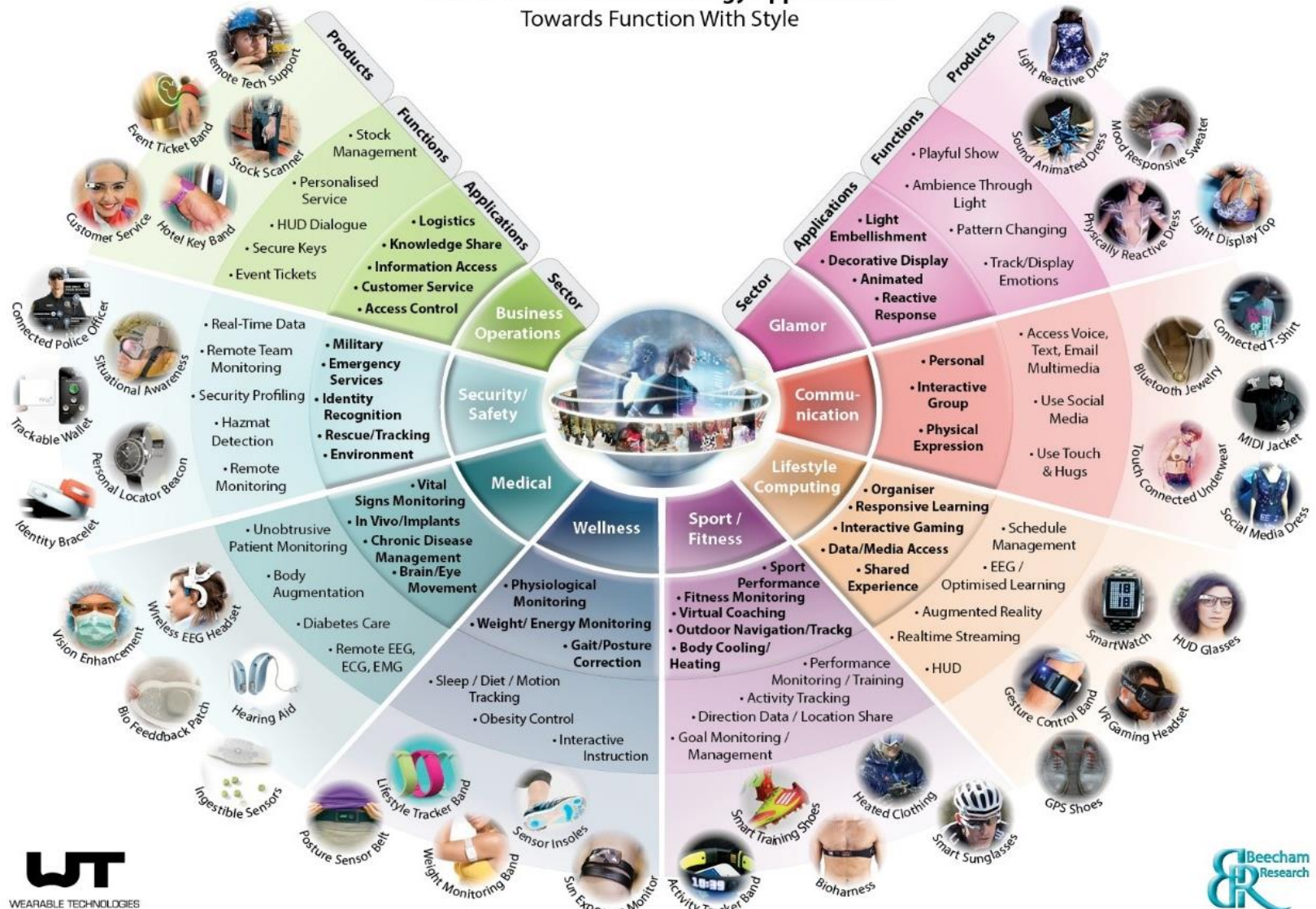
(IDC- international data corporation)

M2M World of Connected Services

The Internet of Things



World of Wearable Technology Applications: Towards Function With Style



Medical Wearables



Parameter

- ☐ Heart rate
- ☐ Blood pressure
- ☐ ECG
- ☐ Cardiac output
- ☐ Blood oxygen
- ☐ Sleep rhythm
- ☐ Serology
- ☐ Blood and tear sugar
- ☐ Physical activity



Further information

- ☐ Certificate of vaccination
- ☐ Early cancer diagnosis
- ☐ General medical information
- ☐ Laboratory values
- ☐ Addresses of medical institutions
- ☐ Taken drugs
- ☐ Medical information for emergency cases
- ☐ (Genetic information?)

Lifestyle Wearables



Life style products

Fit bit – quantified self movement

Biosignals are measured by smartphone



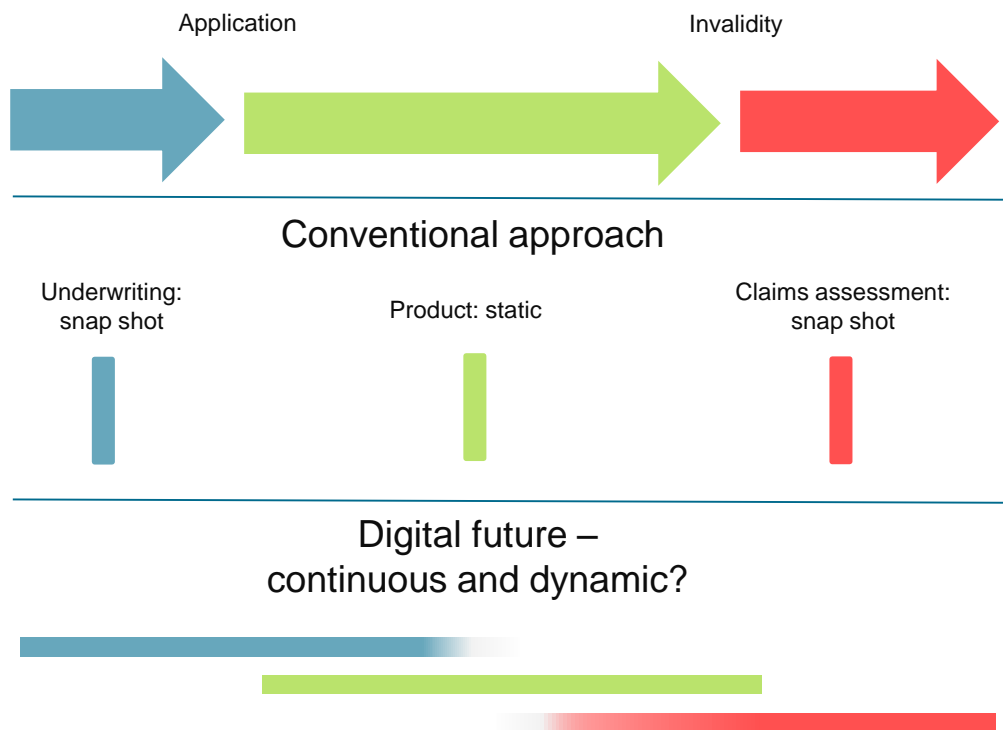
Current UW Situation

- ☐ Expert models rely on experience of professional judgment
- ☐ May have solid statistical basis but use subjective decisions
- ☐ May be converted into automatic rule based model
- ☐ Useful if there is a lack of data
- ☐ Time lag in requesting supplementary information
- ☐ Essential health questions are necessary

Dan Barron, 19.5.2015, Tel Aviv

Future UW procedure

From current to future UW procedure



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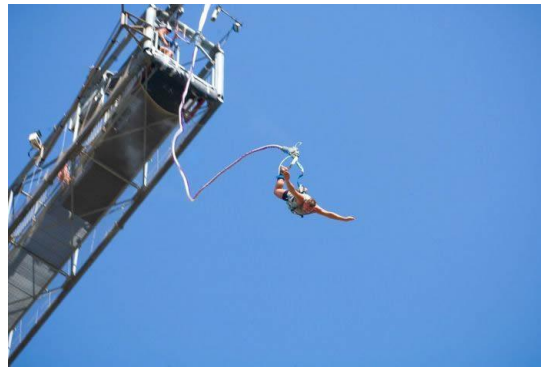
Underwriting

- ❑ Underwriting will be quicker
 - ❑ Medical information obtained by connected objects
 - ❑ Using electronic recorded data for UW
 - ❑ Social media and predictive UW
-
- ❑ Algorithms can analyze the data
in a few seconds to produce an assessment
 - ❑ UW process will be largely automated
 - ❑ Legal and data privacy issues are not clear.



Future development

- ❑ „Instant/spontaneous“ insurance decision
- ❑ Risk assessment by transferring medical and sportive data to the insurer
- ❑ Products are tailor made
- ❑ Can be combined with other services (ambulance flight)



- ❑ The potential benefits to medical research in general are infinite.
- ❑ Multimodal mining of data from sources such as registries, electronic and personal health records, medical devices is possible
- ❑ Direct-to-Consumer (D2C) services
- ❑ Can be easily used by insurance companies

Data protection

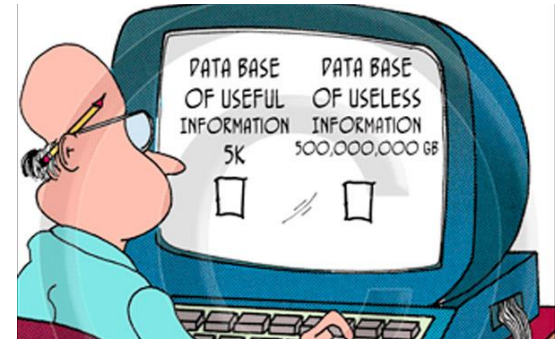
- ☐ In Switzerland a community has been established so that everybody can store his medical pieces of data in a cloud
- ☐ The owner has the possibility to allow or forbid the entrance to his personal medical data.
- ☐ Are there any official regulations from the data protection agency?

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Data

- ❑ What type of data is available?
- ❑ What data do we actually use?
- ❑ What is the quality of the data?
- ❑ What is the predictive value?
- ❑ What are the limits of the data (legal, social)?



Open questions

- ☐ Do people with wearables take better care of their health?
- ☐ Will mortality and morbidity statistically and significantly decline in people with healthier (?) behavior ?
- ☐ Will UW based on wearables be reliable for predicting the risk?
- ☐ Will “quick” UW lead to overlooking the "real risk"?
(Analyzing the heart rate and ignoring the neoplasm that was already there)?

Open questions

- ❑ Are two insured populations created? (one based on wearables versus conventionally selected)?
- ❑ What are the implications of data protection on the use of medical data from wearables by insurers?
- ❑ Risk of fraud? (Handling if false medical data is sent, e.g. from “hacked” connected objects or from another person)?
- ❑ What happens if clients reject the use of medical data from wearables?

Challenges

- ☐ What can insurers do if the habits are changing (gaining weight, stop doing sport)
- ☐ Is it comparable to the current situation where a contract isn't changed anymore?
- ☐ What is the legal situation if fraud is proven (non-disclosure)?

- ❑ Personalized insurance premium (changing every month?)
- ❑ Fragmentation of the insured collective
- ❑ Loss of “good” risks (people know from self-tracking about lower risk)
- ❑ What does the insurer do if it is recognized that the insured person develops severe health problems?

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Take home message

- ❑ Wearables may have a huge advantage for insurance automatic underwriting and for claim management and leading to new product development
- ❑ The medical data problem has not yet been solved
- ❑ Fraud may be possible
- ❑ How should they react to changes of habits?
- ❑ Wearable bearers have to prove to be “preferred” clients
- ❑ Until now there are more questions than answers