

HACKING HEALTHCARE

WITH BIG DATA AND COMMON SENSE

SWISS RE TRANSFORMING HEALTHCARE

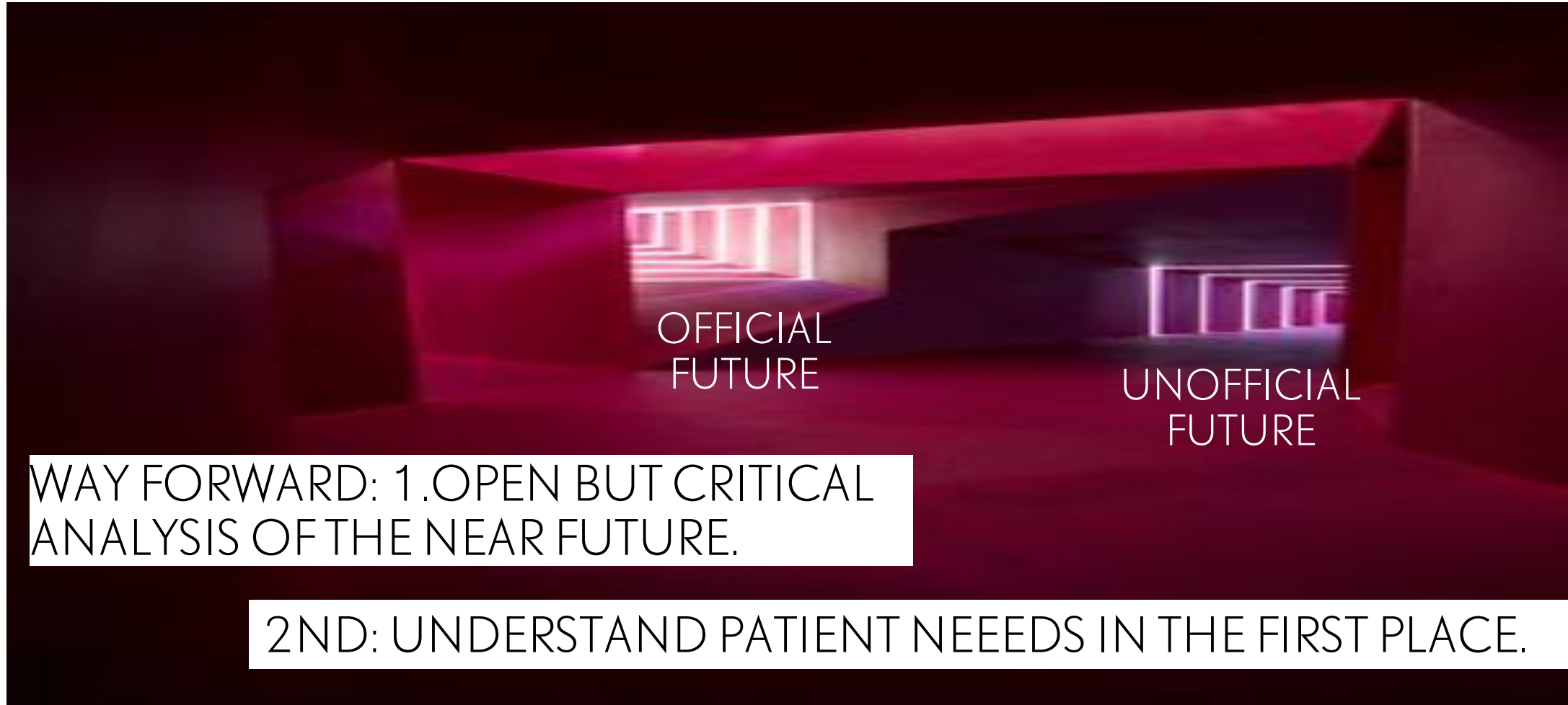
W.I.R.E.

WEB FOR INTERDISCIPLINARY RESEARCH & EXPERTISE

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THINK TANK FOR BUSINESS, SCIENCE AND SOCIETY

DR. STEPHAN SIGRIST | HEAD W.I.R.E. | RÜSCHLIKON. FEBRUARY 8TH 2017

INITIAL SITUATION: PREDICTING THE FUTURE IS DIFFICULT



OFFICIAL
FUTURE

UNOFFICIAL
FUTURE

WAY FORWARD: 1. OPEN BUT CRITICAL
ANALYSIS OF THE NEAR FUTURE.

2ND: UNDERSTAND PATIENT NEEDS IN THE FIRST PLACE.

AT THE CORE OF CHANGING PATIENT BEHAVIOUR IS THE RISE OF A DIGITAL LIFESTYLE. LEARNING FROM THE PAST: DIGITALISATION IS INCREASING TRANSPARENCY AND EFFICIENCY FOR CONSUMERS, LEADING TO MARKET GROWTH.

THE NEXT LEVEL OF DIGITALISATION INCLUDES THE REAL WORLD. BETTER UNDERSTANDING OF WHAT WE DO IN OUR EVERYDAY LIVES.

CONSEQUENCE: INDIVIDUALISED AND TAILORED ORIENTATION, SERVICES AND PRODUCTS.



OFFICIAL FUTURE OF HEALTHCARE: PERSONALISED THERAPIES.



HOWEVER NO COMPLETE PARADIGM SHIFT ON THE LEVEL OF DRUGS YET. COMPLEXITY OF DISEASE BIOLOGY IS HIGHER THAN EXPECTED.



AS A CONSEQUENCE: VALUES BEYOND THE PILL ARE BECOMING MORE IMPORTANT. RISING IMPORTANCE OF NEXT LEVEL IN VITRO AND IN VIVO DIAGNOSTICS INCREASING TRANSPARENCY ABOUT THE HEALTH STATUS.



OVERALL CONSEQUENCE: RISE OF A SMART ENVIRONMENT FOR HEALTHCARE



VISION: «PERFECT HEALTHCARE». SUPPLY AND DEMAND ARE IN LINE.



BUT THERE ARE ALSO DOWNSIDES LEADING TO AN INOFFICIAL FUTURE:

1. TECHNICAL LIMITATIONS. WE ARE CREATING MORE DATA THAN WE CAN SAVE AND PROCESS.

CHALLENGE OF OVERFITTING: MORE DATA DOES NOT DELIVER BETTER RESULTS.

2. TOO MUCH INFORMATION FOR PEOPLE OR PATIENTS. THE FLOOD OF DATA BRINGS A GROWING SENSE OF INSECURITY AND REDUCED TRANSPARENCY – ALSO FOR EXPERTS!

3. PERSONALISED FILTER SYSTEMS RESTRICT THE CHANCE TO THINK ABOUT NEW THINGS. WE FIND WHAT WE ALREADY KNOW.

4. ALGORITHMS DECREASE THE ABILITY TO DIFFERENTIATE!

5. LOSS OF OBJECTIVITY IN THE AGE OF DATA – CONSEQUENCES FOR CLINICAL STUDIES PROOFING IMPACT OF A TREATMENT.

INCREASING DIFFICULTY TO DISTINGUISH FACTS FROM FICTION LEADS TO THE RISE OF «HALF-KNOWLEDGE» AS A FUNDAMENT TO TAKE DECISION – ALSO IN HEALTHCARE.

6. RISK OF DATA LOSS OR HACKING ATTACKS.

7. RISK TO LOOSE PATIENTS IN THE INCREASING AMOUNT OF TECHNOLOGY.

> RISK FOR DE-PERSONALISATION OF HEALTHCARE BASED ON LIMITATION ON MEASURABLE PARAMETERS INSTEAD OF A HOLISTIC UNDERSTANDING.

CONSEQUENCE: OF THE UNOFFICIAL FUTURE: THE PROMISE OF MORE TRANSPARENCY AND EFFICIENCY IS FADING.



SUMMARY OF EXTERNAL DRIVERS OF CHANGE

1. HEALTHCARE IS PART OF EVERY AREA OF EVERYDAY LIFE.

2. RISE OF A PREDICTIVE AND PREVENTIVE MEDICINE. POTENTIAL AND NEED FOR PERSONALISED THERAPIES BUT OPEN QUESTIONS CONCERNING FINANCING AND ETHICAL ISSUES. .

3. RISE OF DATA DRIVEN HEALTHCARE. ALGORITHMS, DATA ANALYTICS AND ROBOTS AS KEY TOOLS FOR PROVIDERS.

4. CLINICAL RESEARCH SHIFTING TOWARDS REAL WORLD SITUATIONS. TRIAL DATA IS NECESSARY, BUT NO LONGER SUFFICIENT. NEED FOR REAL WORLD EVIDENCE.

5. NEW PLAYERS INCREASING COMPETITION FOR TRADITIONAL COMPANIES IN HEALTHCARE, POSSIBILITY OF FRAGMENTATION OF EXISTING VALUE CHAINS

THESES ON FUTURE PATIENT NEEDS

> INCREASING DEMAND FOR MEDICAL SERVICES WITH INCREASING TRANSPARENCY ON HEALTH STATUS.

> DEMAND FOR EFFICIENCY. MOSTLY ON A TIME BASIS – BUT ALSO ON COSTS.

> EXPECTATION FOR A TRULY INDIVIDUALISED THERAPY, BASED ON PERSONAL VALUES AND ORIENTATION IN MEDICINE. FOCUS ON EMOTIONAL CARE.

> HIGH EXPECTATION ON INFRASTRUCTURE AND THE DESIGN OF THE NON MEDICAL SUPPORT.

> AWARENES FOR DATA DRIVEN MEDCINE. POLARISION IN ATTITUDE TOWARDS PROVIDING DATA TO EXTERNAL INSTITUTIONS.

> NEED TO BE INVOLDED AND SELF RESPONSABILITY. AT THE SAME TIME CONFUSION AND NEED FOR ORIENTATION- ALSO FOR PEOPLE WITH HIGHER EDUCATION AND PRIVATE PATIENTS

A person in a dark suit stands with their back to the camera, looking out at a large satellite in space. The background is a bright, hazy sky with a sun or star. The satellite has several solar panels and a central body.

III. AREAS OF ACTION LONG TERM ORIENTED HEALTHCARE INSTITUTIONS

1. DEFINE A LONG TERM VISION WITH FOCUS ON THE BIG PICTURE AND A DESIRABLE FUTURE FOR HEALTHCARE.

> ADAPT STRATEGY TO VISION. NEED FOR AGILITY, FAST REACTIONS AND INSTANT REACTIONS IN A FAST CHANGING WORLD...

> INITIATE AN EARLY DETECTION RADAR FOR NEW TRENDS

> INCENTIVIZE ORGANISATION FOR CHANGE

A cityscape is visible in the background, with a large, dark, rocky volcano in the foreground. The sky is overcast and grey.

...BUT ALSO RESILIENCE TO HOLD OUT TURBULENCES.



> STRATEGIC PLANNING

> SOLVING COMPLEX CASES

> PATIENT HANDLING

> SOLVING SIMPLE CASES
AUTOMATICALLY

> COMPARE CASES, SEARCH
FOR PATTERNS

> AUTOMATIC SCREENING OF
DATABASES WORLD WIDE

HUMAN TASKS

MACHINE
TASKS

> IDENTIFY POTENTIAL FOR MACHINES. DEFINE WHERE DIGITAL TOOLS BRING TRUE VALUE – AND WHAT TASKS HUMAN EMPLOYEES WILL NEED.

3. BACK TO PATIENT! FOCUS INNOVATION ON NEEDS, NOT TECHNOLOGY.

> START LEARNING ABOUT PATIENTS AND CLIENTS, BEYOND ABSTRACT MEDICAL NEEDS.

> BUILD AN ECOSYSTEM WITH VALUES FOR PATENTS AS COMPETITIVE ADVANTAGE.

> FOCUS ON INNOVATING THE SYSTEM, NOT JUST SINGLE PARTS.

4. INITIATE COURAGE FOR EXPERIMENTS BY SETTING UP A GARAGE CULTURE, ENABLING INTRAPRENEURSHIP AND A CULTURE OF FAILURE.

> INITIATE TRANSFORMATION WITHIN EXISTING INSTITUTIONS, NOT ON A HYPOTHETICAL GREEN FIELD

DIFFERENTIATION IS BASED ON PEOPLE, NOT TECHNOLOGY



5. FOCUS ON COMMON SENSE AS THE KEY TO SUCCESS IN A DIGITAL HEALTHCARE!

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