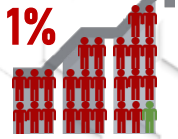


PATHWAYS

Data-rodeo for a better healthcare: clinical pathways and process mining
Supporting value based medicine

FUTURE SUSTAINABLE HEALTHCARE REQUIRES a PARADIGM SHIFT

Continuous Population
growth



SUFFERING 5 AILMENTS

30%

Healthcare
Expenditure



Only Less than 5 %
of population without
health problems



OF THE WORLD LIVES
WITH CHRONIC DISEASE

Prevalence of chronic diseases
and multi-morbidity on the rise



Healthcare expenditure is rising globally across the planet correlating with population increase and increment in life expectancy. In addition only 5 % of the population is living free from health conditions with 50% leaving with a at least one chronic disease and more than 30% suffering from 5 of more ailments. Caring for Chronic Diseases and Multi-morbidity already accounts for more than 80 % of the total health expenditure.

The problem is **systemic** and **jeopardizes** the sustainability of the public healthcare in EUROPE as we know it.

DIGITAL TOOLS

VALUE-BASED HEALTHCARE



EHR



Population Data



Lab Tests



Genetic
tests



Wearables



Apps

COST EFFICIENT CARE

IMPROVED CARE

Provide
patients
clinical-grade
feedback on
their condition



BETTER HEALTH



PATIENT CENTRIC



Health
outcomes
& patient
engagement

DIGITAL HEALTH TRANSFORMATION

Digital health transformation together with Value-Based Healthcare could ease the burden pressure improving protocols and pathways and making them more efficient. Unfortunately adoption of digital tools, like AI, remains poor, failing to breach acceptance barriers.

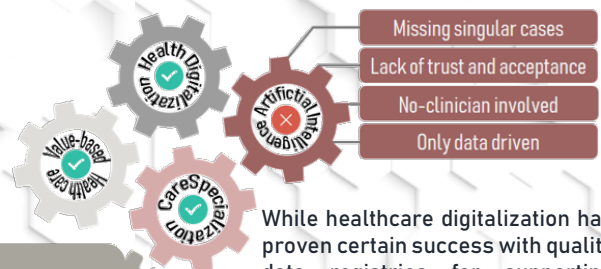
Digital health transformation is the driving force of the paradigm shift being implemented around care specialization and value based care. Providing evidence of success from care specialization and value-based healthcare has been shown to be a slow process. A successful implementation of care specialization and VBHC strategies requires a mature and supporting infrastructure for healthcare digitalization.

Digital health transformation supporting Value-Based Healthcare could ease the burden pressure improving protocols and pathways making them more efficient.

Unfortunately adoption of digital tools, like AI, remains poor, failing to breach acceptance barriers.



Paradigm shift driven by
Digital Transformation



While healthcare digitalization has proven certain success with quality data registries for supporting healthcare improvement, the shallow penetration of Artificial Intelligence tools in hospital, in both management and clinical, operations, is not supporting the VBHC implementations as expected.

INTERACTIVE PROCESS MINING

- Enabling Digital Healthcare Transformation -

Adopting Machine Learning tools in clinical environments is challenging:

- Black Box models based on data-only excluding medical expertise
- Most accurate on common cases but compromised on singular cases: Good fit for volume-based not for value-based healthcare
- Clinical need requires support with in-frequent singular cases: Singular cases is the Aquilles hell of most ML algorithms

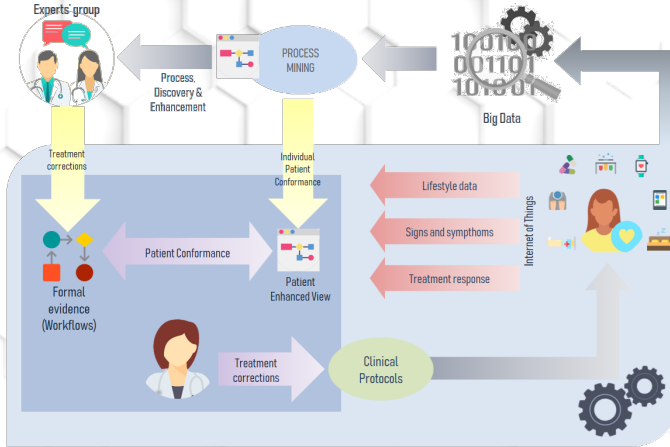
Improving
Acceptance of AI



Avoid black-box processes
Include medical expert in process

Interactive Process Mining

- breaks the Black box concept allowing the involvement of the domain expert in the learning process, incorporating the medical expertise into the model
- produces a longitudinal understandable view providing not only answers but roads to new questions
- model general but accounting for individual, identifying singular processes



SUCCESS CASES

Operation Room Performance

- Increase operational capacity
 - Up to 49 cases more per month
- Improve OR turnaround time
 - pre/post implementation down by 23%
- Reduced inter-department phone calls by 82%
 - saving 1125 hours of work per year

Emergency Care Function

- Improving Triage
 - Reducing waiting times
 - Improving patient prioritization
- Improving Quality of Care and Worklife
 - Adapt caring staff to actual needs
- Reducing re-admission rate
 - Better care outcomes
- Improving Bed Management

Clinical Pathways and Patient Flows

- Conformance analysis of functions & flows
 - Evaluation of adherence to treatments
 - Identification of hidden bottle necks
 - Simulate impact of interventions on the flow

Interactive Process Mining is the best ML approach to study clinical pathways and patient care flows for supporting healthcare improvement, because it is a methodology, specifically conceived to involve the clinical expert in the production of the AI models, incorporating their medical and clinical knowledge in building and interpreting the models.

INTERACTIVE PROCESS MINING COURSE

PATHWAYS provides an Interactive Process Mining tool, offering optimization services to healthcare organizations

Attend our course starting in

01.Jun.2019
10.Jun.2019

KAROLINSKA
Universitetssjukhuset

Stockholm - Sweden



CONSORCI
HOSPITAL GENERAL
UNIVERSITARI

10.May.2019
24.May.2019

03.May.2019
17.May.2019



Coimbra - Portugal



Hospital Universitari
Doctor Peset

02.Apr.2019
16.Apr.2019

Valencia - Spain

DIGITAL HEALTHCARE TRANSFORMATION IS POSSIBLE



PATHWAYS (EIT-HEALTH - 19372)
<http://www.pathwayseit.eu>



EIT Health is supported by the EIT,
a body of the European Union