VALUE

Value based healthcare supported by process mining tools

Creating VALUE through clinical pathways optimization

Defeating patient illness and restoring health to the patient is the dominating concept on which the provision of health services by most centres is managed. Increasing prevalence of the chronic disease among the population is jeopardizing the sustainability of the current healthcare system. High-Value Health Care proposes an approach to care providers to deliver healthcare services, providing value to the patients while keeping healthcare sustainable.
The High-Value Health Care supports implementing the quadruple aim of healthcare, increasing the engagement of patients, addressing the continuum of care and aligning cost to effectiveness of care.

Digital transformation is a must to implement High-Value Health Care models, which enables the process of extracting knowledge from data to help on decision-making. However, this transformation is not simple, and there are problems with acceptance. These come from difficulty in the usability of the solutions, which handle a language not shared by the different actors, and a black-box approach that usually follows the tools that do not explain the steps carried out, an issue of particular importance in the clinical field.

VALUE solution proposes a new framework to enable the collaboration of the clinical, technical, and management staff to adopt High-Value Health Care approaches. It includes a technological product and a method to foster the discussion among all the actors involves in healthcare delivery.
The solution uses innovative Interactive Process Mining techniques to dive into the internals of the clinical pathways finding out the real steps performed by patients. Unlike other technologies, the VALUE solution does not omit information in the generation of new knowledge and offers detailed maps of what happens in the clinical practice to highlight issues according to performance or clinical indicators defined.

Contact us

Enabling real collaborative transformation

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http://www.valueproject.eu

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SURGERY

Information. Some patients went directly from preparation to the recovery room, without going through the operating room. **Knowledge.** Waste on the resources of the hospitals.

(Hospital General Universitario de Valencia)

OUTPATIENT SERVICES

Information. Patients go to several outpatient services on the same day. They usually wait until they enter the first consult, but then it goes fluently. **Knowledge**. It can be identified bottlenecks.

(Hospital Universitari i Politècnic La Fe)

EMERGENCY ROOM

Information. It can be compared to the load in the emergency room per session (winter, autumn, summer, spring). **Knowledge**. Emergencies with mid-level (level 4) wait for more in summer than in winter. We can see how the experience of the personnel affects the operation of the service.

(Hospital General Universitario de Valencia)

EMERGENCY ROOM

Information. We can see how the actual operation of the service conforms to the Manchester standard. **Knowledge.** It helps to identify bottlenecks, in order to be able to make the pertinent changes to improve the service

(Hospital General Universitario de Valencia)

OBESITY MODELLING

Information. It was possible to identify different behaviours models. **Knowledge.** It can be identified with clear patterns in the population, so specific treatments can be applied to a concrete pattern.

(Hospital Universitari i Politècnic La Fe)

SEPSIS

Information. Diagnostic patterns that recur in people with sepsis. **Knowledge.** Discover unknown relationships between diagnoses that point to sepsis

(Taiwan University Hospital)

OBESITY and MALNUTRITION

Information. There are different types of behaviour. **Knowledge.** It can be stated if patients have developed adherence to the treatment or not, and how obesity and malnutrition are correlated

(La Saleta Nursing Home)

WHAT VALUE OFFERS

BEHAVIOUR MODELLING and IoT

Information. Calendar to see the activity level of a person per day. **Knowledge**. We can see the evolution of the person regarding the activity level, to measure his/her adherence to interventions

(Sense Research Lab - Iran)

STROKE IN EMERGENCY ROOM

Information. We are able to identify specific characteristics of the illness of stroke. **Knowledge**. If patients are properly diagnosed as stroke, the attention time of level 1 and 2 are shorter. If on the contrary, the triage is wrong, the attention time in level 4 dramatically increases until 8 times more in the waiting room

(Hospital General Universitario de Valencia)

EMERGENCY ROOM

Information. Analysis of the triage times of hyperfrequents patients. **Knowledge.** We identified that hyper frequent patients (multiple readmissions) learnt to answer properly to be assigned to more urgent triage levels in the triage

(Hospital General Universitario de Valencia)