p-medicine

From data sharing and integration via VPH models to personalized medicine

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Personalized Medicine

- Tailoring of treatment to the individual characteristics of a patient

"If it were not for the great variability among individuals, medicine might as well be a science and not an art"

Sir William Osler, 1892

p-medicine – FP7 IP Project

"To create an infrastructure that will facilitate the translation from current medical practice to personalized medicine"

Objectives

- Support focused clinical research in targeted domains
- Enable the collection and aggregation of clinical-trial-quality data sets
- Establish framework for curation and semantic integration of data sets into a data warehouse
- Provide an environment supporting clinical trials, translating VPH workflows into patient services.
- Create a collaborative environment for patient empowerment

Patient Empowerment

- Appropriate information
- From an empathic doctor/ professional
- In understandable language
- With access to tools for working out the questions and options
- And then- an equal voice in each decision

Informed, Shared Decision Making

Profile each patient

PHR

Questionnaire

Patient Recommend.

Inform, Explain, Adapt
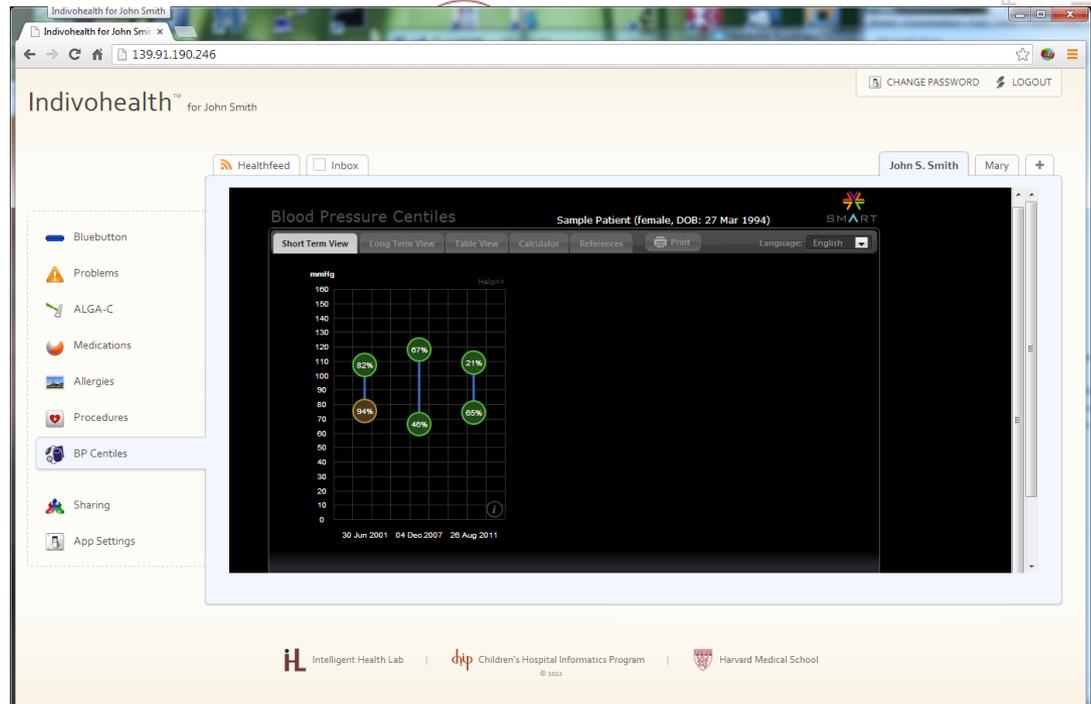
Consent

Doctor Recommend.

Adjust Verbal Comm.

Profiling Server

Profiling Services

Recommendation Services

Medications

Questionnaire

Environmental Conditions

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Profiling Server

Quality of Life Report

Information Adaptation

GUI Adaptation

Profile Visualization

Push Services

Pull Services

training
p-medicine
services
repository
tools
security
data
ACGT
Paediatrics
patients
Oncology
predictive
framework
education
interdisciplinarity
medical quality
preventive
EATRIS
ObTiMA
pharma
clinician
EURICE
personalized

IndivoX PHR

- Free, Open-Source, Web based PHR system

- Implements SMART-API

- Customizable, Modular

- Meets Meaningful Use criteria

- Standards
    - SnomedCT
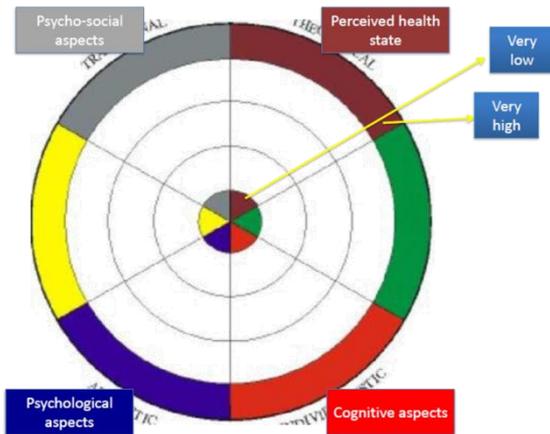   - RxNorm
    - LOINC

Profiling Service – Alga - C
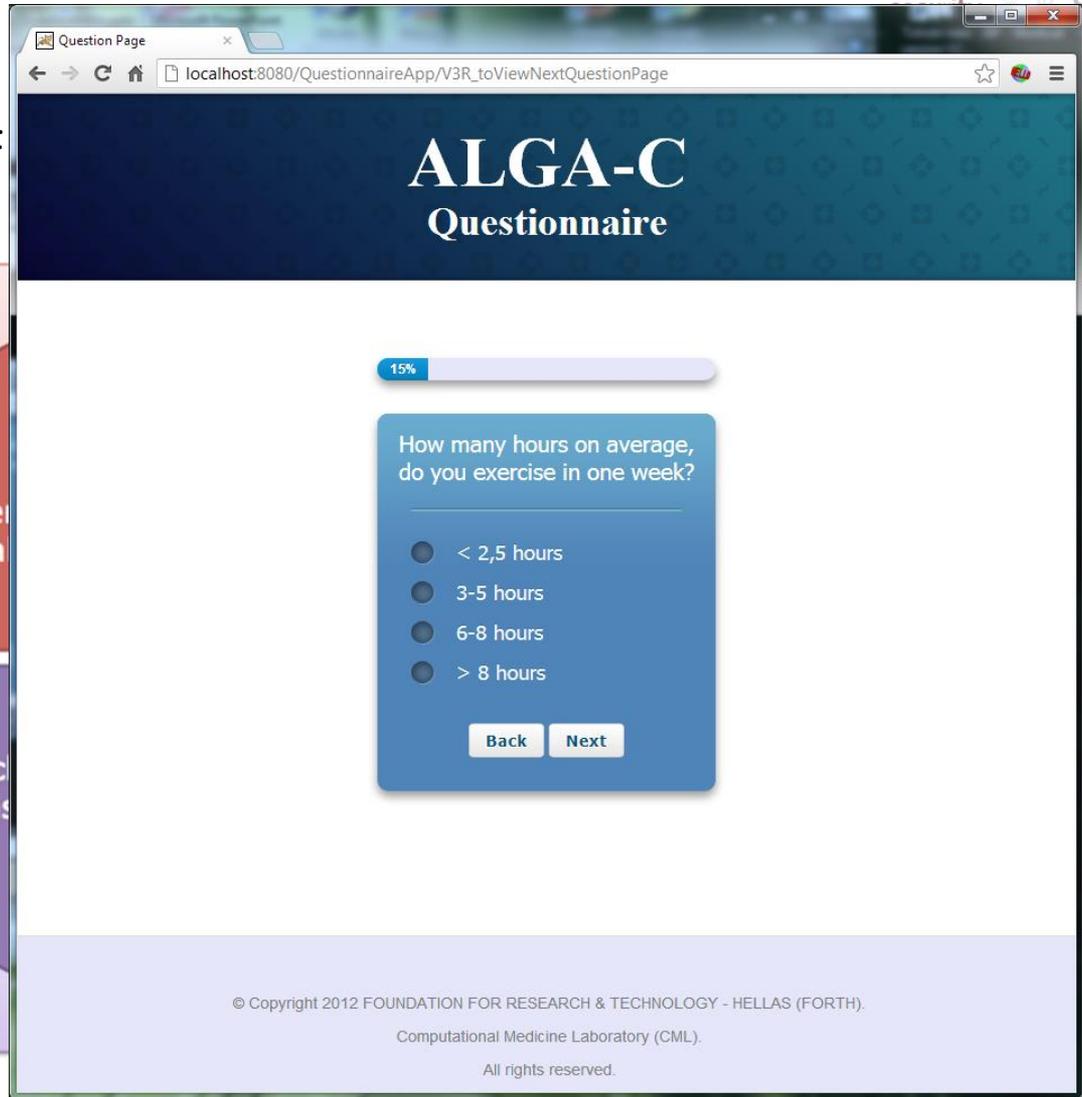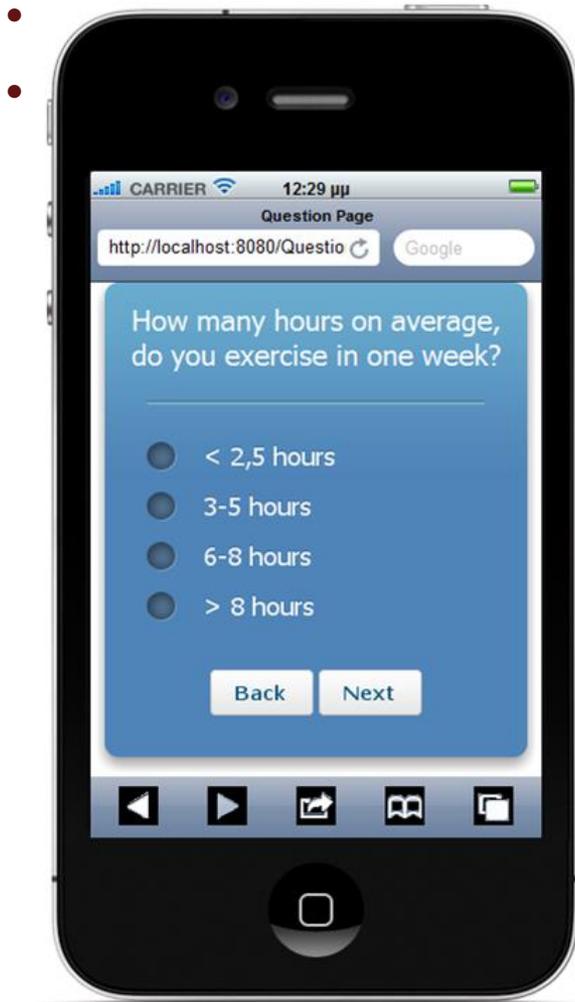
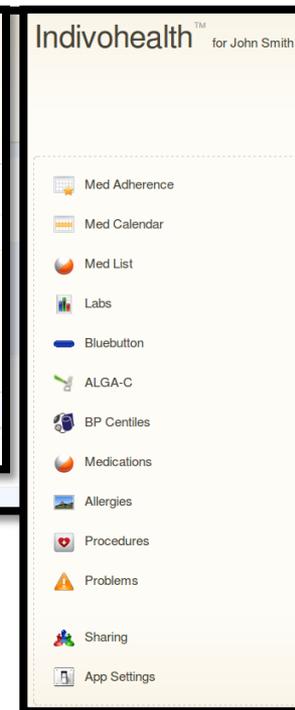# Recommendation Service
## Visualize Patient Profile for Doctors

- **Target**: Adjust the content and level of verbal information to the patient's perceived needs (both informational and emotional) and their level of understanding

- **Method**: Visually identify patient profile

- Already initial tests with an oncology population (50)

		Gender	Age	Educ. Level (years)	z-score (mean=0, sd=±1)	Colored scale	description	Communication suggestion
Perceived Health State	GSRH	male	60	8	0.5	🟢◯◯	Perception of health state in the average	(*)

Re...

Ad...

•Op...
thro...
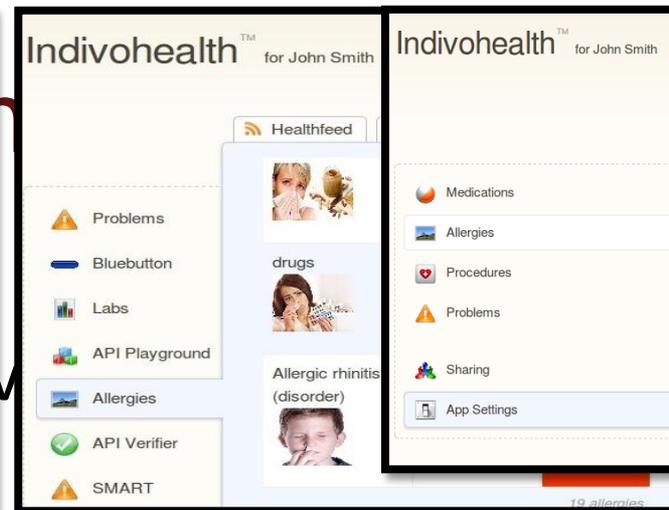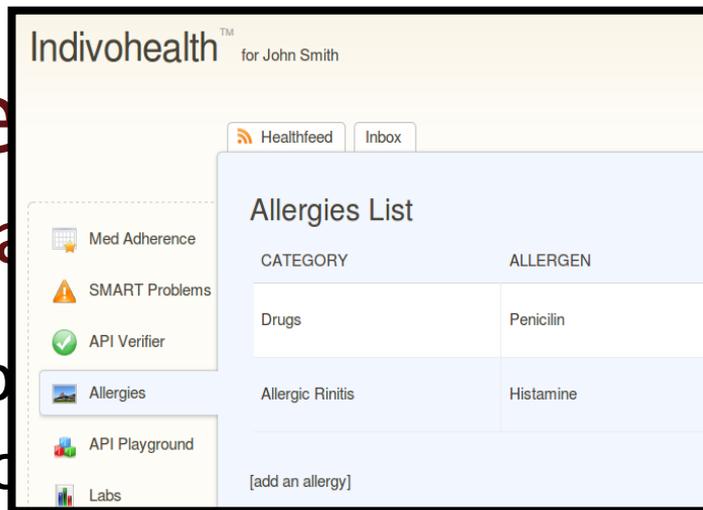
- Adaptive Presentation: Personalize the contents presented to the user

- Adaptive Navigation: Customize ways by which uses complete their tasks in the application

- Smart Recommendations: Recommendations using individual profile, similar cases by other patients, inference about user needs and preferences.

- Intelligent Alerts: Recognize abnormalities and provide alerts, identify medical errors, hazards

Recommendation Service
Trial Match

- Efficient Recruitment of eligible patients for clinical trials.

- Patient Data & Clinical Trial eligibility criteria are already stored at the DWN, annotated with HDOT ontology.

- A matcher identifies eligible patients for Clinical trials

Conclusions

- Adaptive Presentation & Navigation is currently under implementation.

- Remains to be tested and evaluated using real patients

- Hopefully our platform will act as a decision support infrastructure, supporting the

  - Communication

  - Interaction

  - Information delivery

  process between doctors and patients

Thanks!