**“Metodologie e strumenti informatici per la gestione integrata**

**di dati e processi clinico-sanitari”**

**“Methodologies and computerized tools for the integrated management**

**of health and clinical data and process”**

0) State of the art and analysis of the the clinical domains

Analisi dello stato dell’arte e approfondimento dei domini clinici individuati UNIBA, FUB, UNIPMN, UNIPR, UNIBO, UNIFE, UNIVR, UNITO, CNR (1 – 6° mese)

0.1 Analisi dello stato dell’arte e condivisione fra le unità UNIBA, FUB, UNIPMN, UNIPR, UNIBO, UNIFE, UNIVR, UNITO, CNR

Analysis of the state of the art and cross-dissemination between Units

* 1. Specifica ed analisi dei casi di studio

Definition and analysis of case studies

0.2.1 Linee guida e relativi Clinical pathways STEMI (gestione infarto miocardico) --- Clinical guidelines and associated clinical pathways STEMI (dealing with myocardial infarction) UNIVR

0.2.2 Farmacovigilanza e gestione Farmacia --- Pharmacovigilance and pharmacy management UNIVR

0.2.3 Medicina d’emergenza: trauma cranico --- Emergency medicine: head injury UNIPMN

0.2.4 Medicina d’urgenza: arresto cardiaco --- Emergency medicine: cardiac arrest UNIVR

0.2.5 Gestione di alcolisti cronici --- Alcohol dependence management UNIPMN

0.2.6 Storia clinica di pazienti con malattie di lungo corso - Long term conditions patient history UNIBA

0.2.7 Broncopolmonite intra-ospedaliera- Community-acquired pneumonia UNIFE

0.3. Individuazione dei casi di studio da focalizzare nel progetto --- Selection of case studies UNIBA, FUB, UNIPMN, UNIPR, UNIBO, UNIFE, UNIVR, UNITO, CNR

1) Modellazione integrata di dati e di processi clinici e sanitari --- Integrated modeling of data, clinical processes and healthcare processes (7° - 24° mese) UNIBA, FUB, UNIPMN, UNIPR, UNIBO, UNIFE, UNIVR, UNITO

1.1. Ontologie per la conoscenza medica e processi clinici --- Medical ontologies and clinical processes UNITO, FUB, UNIBO, UNIFE

1.1.1 Analisi delle proprietà computazionali di linguaggi ontologici --- Analysis of ontology languages and their computational properties FUB,UNITO

1.1.2 Accesso ai dati medici mediato da ontologie --- Medical ontology-based data access FUB, UNIBO

1.1.3 Ontologie probabilistiche – Probabilistic ontologies - UNIFE

1.2. Modellazione di linee guida --- Modeling clinical guidelines UNIVR, UNIBO,UNIPMN, UNIBA, UNITO, UNIPR

1.2.1 Formalismi --- Formalisms UNIVR, UNIBO,UNIPMN

1.2.2 Aspetti temporali --- Temporal features UNIVR, UNIBA, UNIBO, UNIPMN

1.2.3 Linee guida ad esecuzione distribuita --- Distributed clinical guidelines UNITO, UNIPR

1.2.4 Supporto al ciclo di vita e versioning --- Supporting guideline life-cycle and versioning, UNIBO

1.3 Modellazione di clinical Pathway (workflow) --- Modeling clinical Pathway (workflow) UNIVR, UNIBA, UNITO, FUB, UNIBO, UNIPR, UNIPMN,

1.3.1 Formalismi --- Formalisms UNIVR, UNIBO,UNIPR

1.3.2 Aspetti temporali --- Temporal features UNIVR, UNIBA, UNIBO, UNIPMN

1.3.3 Clinical pathway ad esecuzione distribuita --- Distributed clinical Pathways UNITO, UNIPR

1.3.4 Modellazione combinata di processi clinici e dati --- Combined modeling of clinical pathways and data FUB

1.4 Interfacce visuali per il supporto di processi clinici --- Virtual interfaces for the support of clinical processes UNIBA

2) Verifica design time e run time di processi clinici --- Design time and run time verification of clinical processes (13° - 30° mese) UNIVR, UNIBA, UNITO, FUB, UNIPR, UNIPMN, UNIBO

2.1. Verifica design time --- Design time verification UNIVR, UNIBA, UNITO, FUB, UNIPR, UNIPMN

2.2 Verifica run time e adattività --- Run time verification and adaptivity UNIVR, UNIBA, FUB, UNIBO, UNIPR, UNIPMN

2.2.1 Uso delle ontologie per la governance di processi clinici --- Exploiting ontologies for the governance of clinical pathways FUB

3) Analisi intelligente ed integrata di dati e processi clinici e sanitari --- Intelligent and integrated analysis of data,

clinical processes and healtcare processes (7° – 24° mese) UNIBA, CNR, UNIVR, UNIFE

3.1 Modelli, metodi e strumenti per la modellazione, la costruzione e l'analisi di Data Warehouse di processi clinici e sanitari --- Models, methods and tools for modeling, building, and analyzing Data Warehouses over healthcare and clinical processes UNIBA, CNR

3.2 Clinical Data mining, UNIVR, UNIFE, CNR

3.3 Clinical process mining UNIVR, UNIFE, CNR

4) Progettazione e implementazione di una suite di strumenti software per la gestione e l’analisi integrate di linee guida e di dati clinici --- Design and implementation of a software suite for the integrated management and analysis of clinical guidelines and clinical data (19° – 36° mese). UNIBA, FUB, UNIPMN, UNIPR, UNIBO, UNIFE, UNIVR, UNITO, CNR

4.1 Progettazione e prototyping --- Design and prototyping

4.2. Test e integrazione --- Test and integration

4.3. Validazione finale su alcuni casi di studio --- Final validation on selected case studies

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Task 0

Task 1

Task 2

Task 3

Task 4