

# COMP2332: Enterprise Healthcare Business Process Modelling

## Business Process Modelling HealthCare

Time: **Tuesday+ Thursday: 12:50-14:05**

Location: **Masri110**

Section: **1**

**HiCure**

Excellence in Health Informatics Integrated Curricula

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# Business Process Modelling Notations

- Fundamentals
- Motivation
- Core Concepts
- Components
- Life cycle

# Difficulties and Challenges when Applying BPM in the Health Sector

- Health Care Process Orientation
  - Necessary to view as a patient-centred care model.
    - i.e. it focuses on the performed business processes (opposed to viewing the healthcare organisation as a number of departments )
- Multidisciplinary Nature of Healthcare Processes
  - Many participants with many roles,
  - BPMN **does not support** explicit modelling of **shared activities**, thus the solution will be to model the activity repetition in different lanes

# Difficulties and Challenges when Applying BPM in the Health Sector

- Flexibility and Variability of the Activities Involved in Healthcare Processes
  - the complexity of patients' treatment at a hospital might involve many **exceptions** that occur in healthcare processes
- Integration, Communication and Interoperability with Existing Information Systems in Healthcare Organisations
  - But **availability** of all the information relevant to the care of patients in the right place and at the right time, providing continuity of care and ensuring **security** and **privacy**.

# Difficulties and Challenges when Applying BPM in the Health Sector

- Continuous updating of scientific knowledge in healthcare
  - data generated from process knowledge models require **data quality** assurance- thus requires *continuously connected* processes.
- Disconnection between Hospital and Community Care
  - **discontinuity** in healthcare processes between hospitals and primary care settings creates difficult process representation or simulation.

# Workflows to Careflows

- Workflow Management (WFM) and Business Process Management (BPM) are widely applied in administrative processes but **not in healthcare**.
- Increasingly, **clinical decisions** need to be based on scientific evidence, social-ethical values and economic factors, thus processes/activities may change for individual patients and with time.
- Flows of care, or careflows, are thus created or developed to provide most appropriate flows of care for patients, based on their care needs,
  - Care needs, for some patients, can be very complex , e.g. for patients that have multiple conditions.
- But Careflows can be extremely complex, intertwined and interconnected
- Careflows are challenging for BPM/WFM.

# Workflows to Careflows

- In healthcare settings, to allow different patient care needs:
  - Careflow processes need to be supported, controlled, and monitored, to ensure quality patient care.
  - Evidence-based care requires transparency, justification, and accountability.
- To achieve, important to understand existing processes/careflows, to discover less efficient or more efficient flows for different scenarios.