

A Federated Collaborative Care & Cure Cloud Architecture for Addressing the Needs of Multi-morbidity and Managing Poly-pharmacy

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Introduction

A growing share of the population (15% in 2010) in OECD countries is over 65 and expected to reach 22% by 2030. Older age is associated with an increased accumulation of multiple chronic conditions. More than half of all older people have at least three chronic conditions, and a significant proportion has five or more.

The clinical management of patients with multi-morbidity is much more complex, disconnected and time-consuming than that of those with single diseases. As a result, multi-morbid patients with long-term care needs experience shortcomings and gaps in their care provision.

There is an increasing need to organise the care around the patient with the involvement of all stakeholders, and as a response to this requirement, the C3-Cloud project aims to achieve high quality integrated care with the support of information and communication technologies (ICT).

C3-Cloud Approach

C3-Cloud establishes an ICT infrastructure to enable continuous coordination of patient-centred care activities by a multidisciplinary care team (MDT) and patients/informal care givers.

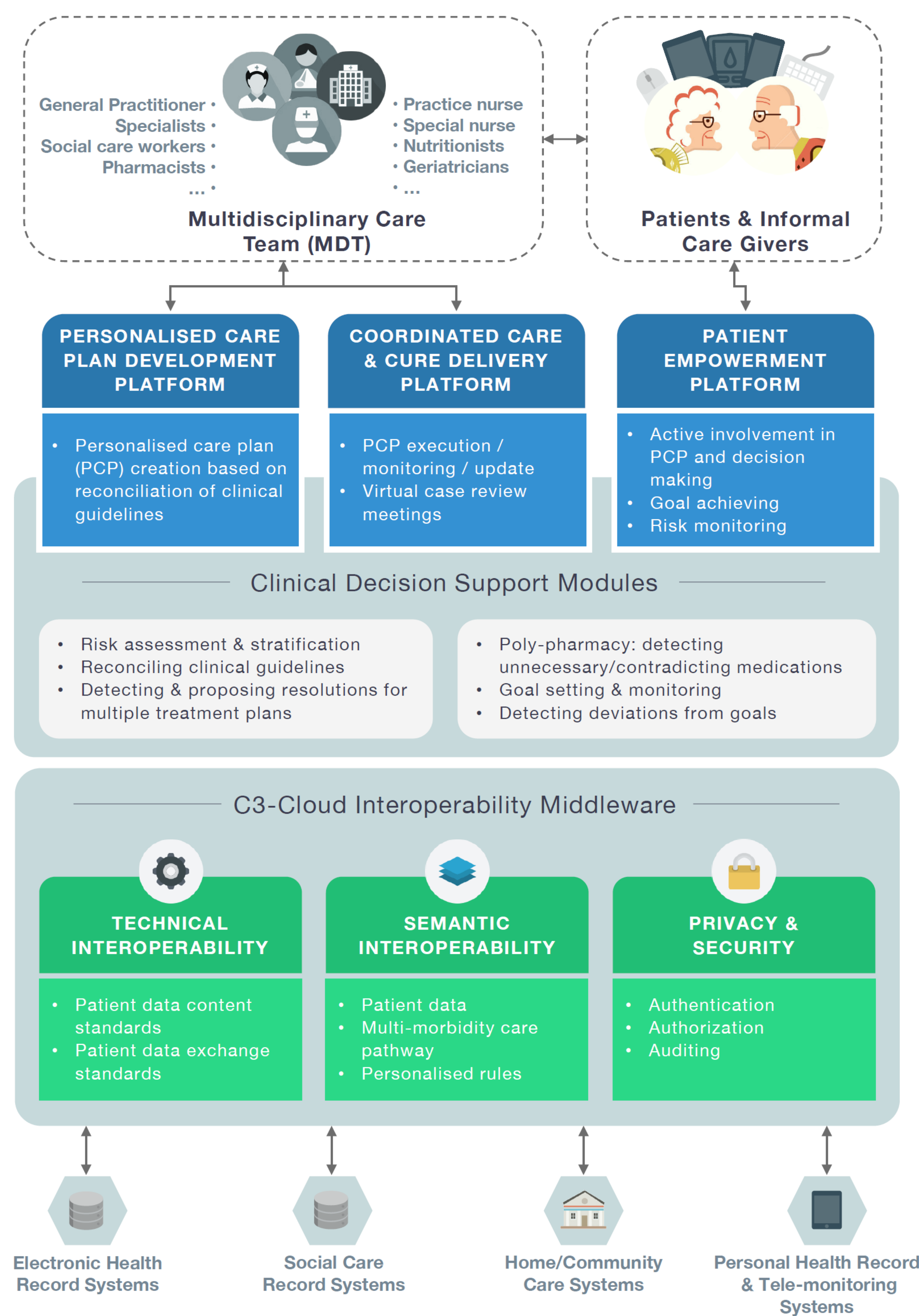


Fig. 1 - An overview of C3-Cloud Architecture

Personalised Care Plan Development Platform

A Personalised Care Plan Development Platform allows collaborative creation and execution of personalised care plans for multi-morbid patients through systematic and semi-automatic reconciliation of clinical guidelines.

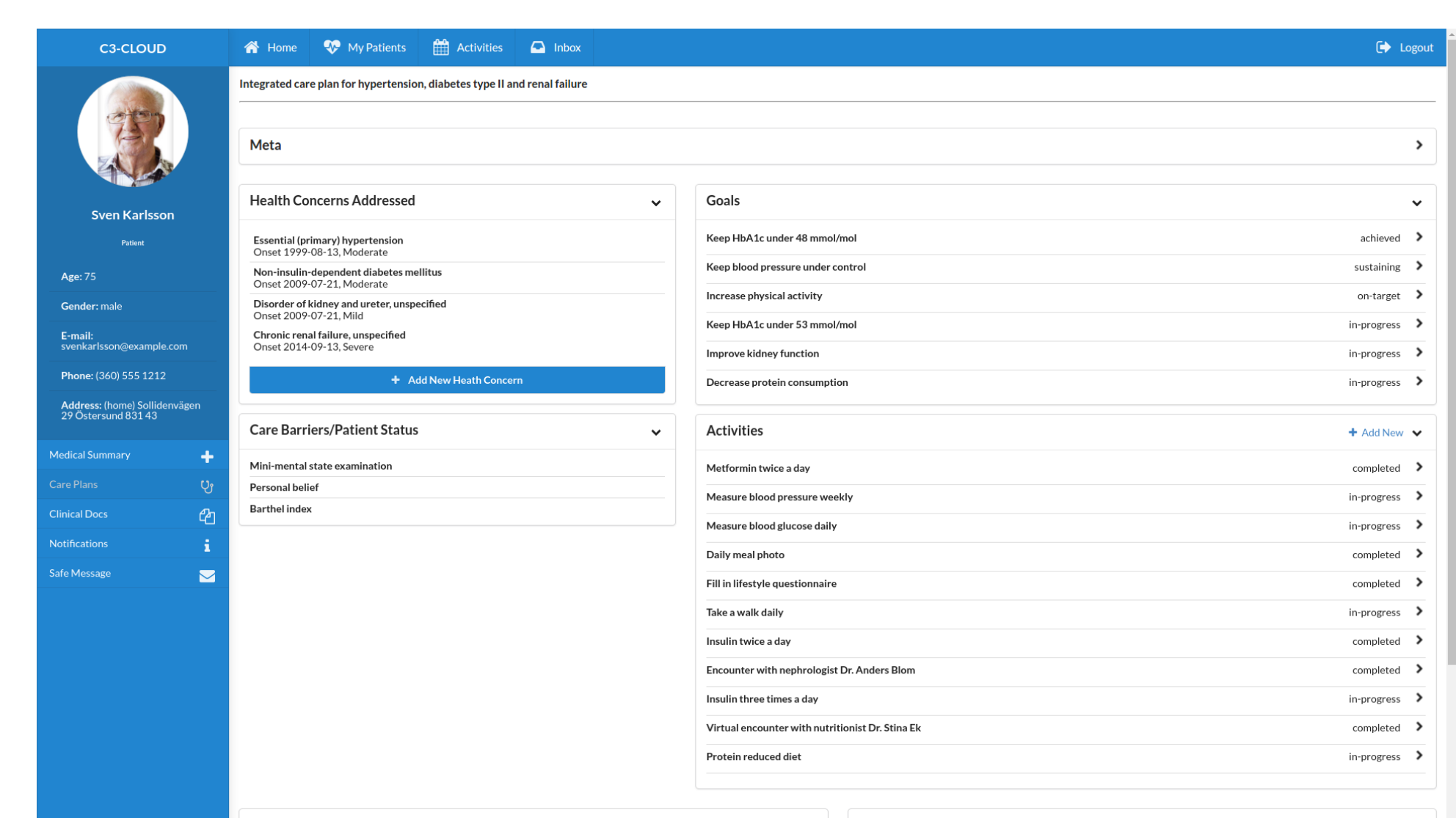


Fig. 2 – A snapshot from Personalized Care Plan Development Environment

Reconciliation of Multiple Care Plans through Clinical Decision Support Systems

Clinical Decision Support Modules are utilized for risk prediction and stratification, poly-pharmacy management, goal and intervention setting based on evidence based clinical guidelines and reconciliation of multiple care plans.

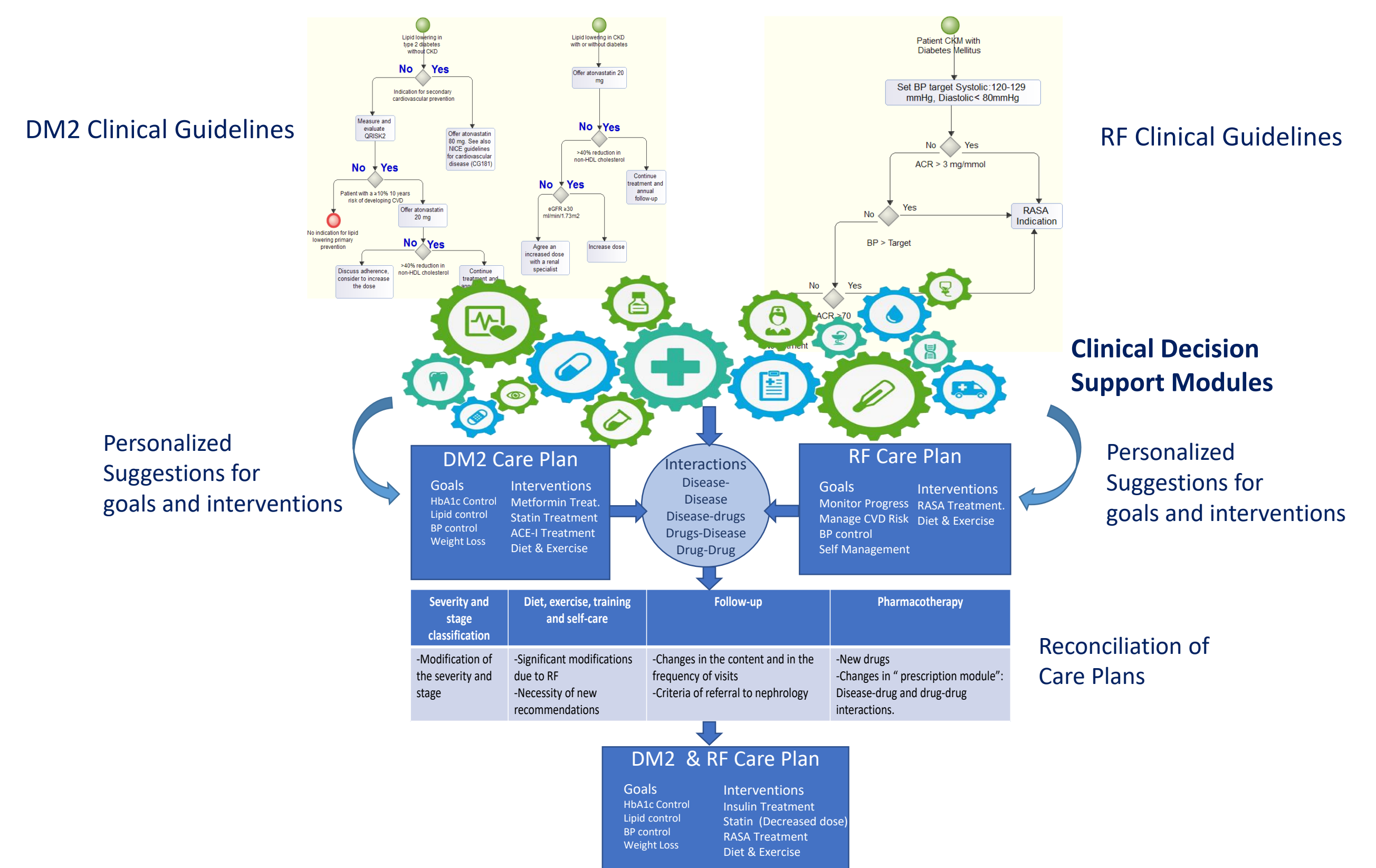


Fig. 3 – Utilization of Clinical Decision Support Modules for Care Plan Creation and Reconciliation of Multiple Care Plans

Seamless integration with existing health/social care information systems

Fusion of multimodal patient data will be achieved via C3-Cloud Interoperability Middleware. FHIR based interfaces with existing health/social care information systems are being implemented for addressing technical interoperability, while a terminology server is utilized for addressing semantic interoperability challenges.

Active Patient Involvement through Patient Empowerment Platform

Active patient involvement will be realized through a Patient Empowerment Platform, ensuring patient needs are respected in decision making.

Project Web Site: <http://c3-cloud.eu/>