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# Value-based Healthcare Path

Certified Innovation Path - Curriculum

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# Value-based Healthcare Curriculum

| Modules | Organisations | Credits |
|---|---|---|
| Leadership, Entrepreneurship, and Innovation in Healthcare Environments | Introduction course | 5 ECTS |
| Introduction to New Modules to Deliver Healthcare | All Partner Organisations | 4 ECTS |
| Engaging Patients and Informal Caregivers for HVC & Social Impact | Deutch Society for Personalised Care | 2 ECTS |
| Practical Cases Enabling New Modules to Deliver Healthcare | All Partner Organisations | 4 ECTS |
| Condition | Karolinska Institutet | 3 ECTS |
| Recording | Vall d'Hebron Barcelona Hospital Campus | 3 ECTS |
| Comparing | Agencia de Qualitat i Avaluació Sanitàries de Catalunya<br>Deutch Society for Personalised Care<br>Vall d'Hebron Barcelona Hospital Campus | 3 ECTS |
| Rewarding | Agencia de Qualitat i Avaluació Sanitàries de Catalunya<br>Union des Hôpitaux pour les Achats | 3 ECTS |
| Improving | European Association of Value-Based Health Care | 2 ECTS |
| Internal forces | Unidade Local de Saúde Coimbra | 2 ECTS |
| External collaboration | Agencia de Qualitat i Avaluació Sanitàries de Catalunya<br>Union des Hôpitaux pour les Achats | 2 ECTS |
| Business Intelligence Tools | Universitat Politècnica de Valencia | 3 ECTS |
| Smart Sensing | University of Boras | 3 ECTS |

# Leadership, Entrepreneurship, and Innovation in Healthcare Environments

5 ECTS

**This course is designed to equip students with the essential skills and knowledge required to lead, innovate, and drive entrepreneurship in the complex and everevolving healthcare industry, which operates within the context of Volatility, Uncertainty, Complexity, and Ambiguity (VUCA). The course is divided into three distinct sections: Leadership, Entrepreneurship, and Innovation, with a focus on understanding and addressing the unique challenges and opportunities in healthcare organisations.**

**Module 1: Leadership (1 ECTS)**

In this module students will learn about what is required to lead effectively in healthcare environments, how leadership styles and strategies should be adapted to face the challenges imposed by VUCA. Ultimately the students will learn about the leadership competence that are required for fostering positive organisational change and innovation.

**Module 2: Entrepreneurship (2 ECTS)**

In this module students will learn the common requirements to develop an entrepreneurial mindset and skills necessary to identify and pursue both entrepreneurial and intrapreneurial opportunities in the healthcare sector, including effectively planning and launch of healthcare ventures.

**Module 3: Innovation (2 ECTS)**

In this module students will learn what are the key building capacities required to drive innovation in healthcare, including the different methodologies applicable to new product development in healthcare.

Karolinska Institutet

Trinity College Dublin
The University of Dublin

KTH VETENSKAP OCH KONST

AIDFM
Associação para Investigação e Desenvolvimento da Faculdade de Medicina

## Introduction to New Modules to Deliver Healthcare (NMDH) - Health prevention & Delivery, Research and Academia
## All partners

4 ECTS

**Module Description**

This module will introduce learners to the implementation matrix and the dimensions critical for the implementation of High Value Care (HVC) initiatives that aim to improve health outcomes, patient experience, staff well-being, cost-efficiency, involve patients/caregivers and enabling technologies.

**Learning Outcomes**

- Introduce learners to the module.
- Understand fundamental concepts, models and principles for HVC and NMDH.
- understand key technological facilitators for the adoption of HVC and NMDH.

**Unit 1.**
Introduction to HVC Education.

**Unit 2.**
Introduction to Condition & Recording.

**Unit 3.**
Introduction to Comparing & Rewarding.

**Unit 4.**
Introduction to Improving & Partnering.

**Unit 5.**
Introduction to technologies enabling NMDH.

# Engaging Patients and Family/Informal Caregivers for High Value Care & Social Impact

2 ECTS

## Module Description

This module deepens learners' understanding of personalised, integrated care, focusing on how stakeholders—caregivers, managers, payors, and regulators—collaborate with patients and caregivers to set treatment goals and co-create high-value care. Learners will see how visual tools aid in designing team-based clinical paths and how a well-prepared co-design process between patients, families, and care teams enhances outcomes.

Essential skills in innovation and change management are highlighted for patients, healthcare teams, and payors, with an emphasis on sustainable healthcare practices, such as long-term patient relationships, responsible resource use, and environmental mindfulness. The module's team, comprising healthcare professionals, managers, and patient advocates, ensures learners gain a holistic, practical perspective.

## Learning Outcomes

- Motivate why care should be personalised, team-based and sustainable.
- Describe how to implement a new paradigm of the healthcare professional/patient relationship.
- Describe how to integrate outcome measures into care pathways.
- Describe how to implement patient and family engagement into all system levels (micro, meso and macro).
- Explain their one's own role in HVC change processes and how to apply the competencies developed in one's own setting and organisation.
- Define sustainability in the broadest sense and its importance in healthcare.

**Unit 1.**

Why should we aim for more personalised care?

**Unit 2.**

What is the influence of social-economic determinants on health and outcomes?

**Unit 3.**

Use case of integrated personalised rheumatoid arthritis care.

Sustainability in health(care).

**Unit 4.**

# Practical Cases Enabling New Modules to Deliver Healthcare
# All partners

4 ECTS

**Module Description**

In the "Practical Cases that enable New Modules to Deliver Healthcare" module, learners will have to analyse already implemented and complete use cases of NMDH around Europe, including outcomes, barriers, learnings, and the challenges faced during the preparation and the implementation by the different stakeholders involved in value chain (i.e. patient organisations, citizens, healthcare professionals, managers, industry). This module includes the mandatory practical cases listed in Table 1. In the subsequent elective modules, additional practical cases will be analysed. Our fellowship will share the knowledge and experience from current implementers to the next generation of implementers.

**Learning Outcomes**

- Analyse NMDH that are integrated, preventive, personalised, value(s) driven, and sustainable by analysing practical cases that incorporate 360° perspectives to identify challenges and extract best practices, lessons learned, from real-world implemented cases.

**Sub-Module 1.**

Practical cases from health prevention & delivery perspective.

**Sub-Module 2.**

Practical cases from research organisation perspective.

**Sub-Module 3.**

Practical cases from industry perspective.

| Practical Cases | Area of Application | Regional \| National \| European | Aspects Addressed |
|---|---|---|---|
| The Dutch Obesity Clinic (NOK) | Obesity & Bariatric Surgery | Regional - Netherlands | Integrated, Preventive, Personalised, Value Driven & Sustainable |
| Hospitalisation at Home (HaH) | Lung disease, heart failure, infections, internal medicine, oncology, geriatrics, mental health | Regional - Spain | Personalised, Integrated & Sustainable |

# Condition

3 ECTS

**Module Description**

In the "Condition" module, learners will explore strategies, methods, tools, and technologies (including AI) to identify feasible patient conditions and engage key stakeholders to co-create HVC for a specific patient group of interest at individual or population levels. Case-examples will allow participants to explore research-informed leadership and management strategies for effective adoption and adaptation and how to avoid setting the stage for future abandonment of NMDH. In this modules will be included the following cases: Orchestrating organisational change strategies in emergency, diabetes & hydrocephalus care (Karolinska University Hospital) and the AI/Machine learning, e.g. from heart, nephrology, diabetes care (Danderyd Hospital).

**Learning Outcomes**

- Motivate the choice of approach to identify medical conditions for NMDH that are contextually aligned and engage key stakeholders to co-create HVC.
- Understand the implications of the complexity of the care processes in the identification of the medical conditions for NMDH.
- Explore the use of novel technologies (e.g. deep learning architectures) to identify multi-morbid patient segments to co-create HVC.

**Unit 1.**

Traditional medical departments and Condition-based patient flows – implications for practice from the Karolinska University Hospital lean and HVC use case.

**Unit 2.**

Strategic approaches for selecting HVC condition cohorts (e.g. VCO Matrix).

**Unit 3.**

Use of novel technologies (e.g. deep learning architectures) to identify multi-morbid patient segments.

# Recording

3 ECTS

**Module Description**

In the "Recording" module learners will learn methods and tools to define the scorecard, its categories, including processes, costs and outcomes indicators while applying case-mix adjustments. During this module learners will get competences to understand the needs for data access, which technologies can be used to perform data capture, data analytics and regulatory requirements. Case-examples will support learners.

**Learning Outcomes**

- Define the main facts behind a proper data registry and ability to judge data quality; define the scorecard and target improvements.
- Determine data platform requirements and all stakeholders involved.

**Unit 1.**

Relevant costs and outcomes criteria for the care professional and patient definition during data registry. Broadly accepted classification systems (ICD, Meddra, DRG, COMET, OMOP...).

**Unit 2.**

Data collection. From Optic Character Recognition systems for paper Patient Reported Outcomes Measures (PROMs) and Patient Reported Experience Measures (PREMs), across Computed-assisted Telephone Interviewing (CATIs) and Applications to Artificial Intelligence.

**Unit 3.**

Reviewing patient-reported outcomes statistics for proper data presentation. Sources for data triangulation.

**Unit 4.**

Dashboards including data stratification and real-world data discussions when presenting HVC results within an integrated practice unit.

**Unit 5.**

The real-world challenges when dealing with poor success or scarce frequency cases.

# Comparing

3 ECTS

**Module Description**

The "Comparing" module will provide learners with deep understanding in benchmark methods and tools for preparing organisations to participate in transparent outcome comparison.

**Learning Outcomes**

- Define the main facts behind data comparison.
- Anticipating the evaluation analysis to be critical at HVC success.
- Explain case-mix methodologies.
- Analyse organisational changes needed to implement a benchmark as an initiative to improve quality of care.

**Unit 1.**

Units to compare value-based results.

**Unit 2.**

Patient integrated practice unit complexity and diversity factors affecting costs and benchmarking outcomes. Formal and practical approaches.

**Unit 3.**

Dashboards and real-world data discussions when comparing value success results across centres.

**Unit 4.**

Rheumatology unit case in Netherlands: benchmark project between 7 hospitals using the same outcome set and scorecard for rheumatology patients.

**Unit 5.**

H20 (Health Outcomes Observatory) case patient comparison: European project aiming at giving patients the possibility to compare their outcomes with their peers in Europe.

# Rewarding

3 ECTS

**Module Description**

In the module "Rewarding" learners will get competences to define the key categories of investments and mobilise resources for implementation. Learners will deep in payment models and VBP to create value-based and non-financial & behavioural incentives.

**Learning Outcomes**

- Understand the business case and impact at both healthcare provider & socio-economic level.
- Understand the impact on the relationship with the patients, the professional, the payer and the industry.
- Recognise and understand different type of incentives with the different impacted actors.

**Unit 1.**

Stakeholder mapping & context management: identification of all the stakeholders impacting the clinical path delivery before and after the implementation of NMDH change and the analysis of how they are impacted and to make them to buy in.

**Unit 2.**

Value chain and business case: identification of necessary investments to implement NMDH transformation ((e.g.: human resources, skills and competencies, technology infrastructures, services, sustainability in a broad sense) through the application of tools like Theory of Change, Mission Model Canvas and Health Economics basics.

**Unit 3.**

Implementation, Adoption and Scale Up: analysis of risks to be taken, evidence to be generated, value to be delivered, preparedness to perform the NMDH change to go from a local implementation to health system(s) scale up.

**Unit 4.**

Incentives & Payment reimbursement approaches: analysis of the influence of local payment systems on NMDH transformation business cases and how the incentives and payments approaches determine the relationships between the payor and the healthcare providers and the healthcare providers and the industry and the healthcare providers and their professionals.

# Improving

2 ECTS

**Module Description**

The "Improving" module focused on the use of methodology, tools and technologies aims to equip participants with the comprehensive skills needed to drive transformation towards HVC. One of the keys is the creation of learning communities. This module will emphasise the impact of data transparency, peer learning and the creation of interdisciplinary improving programmes focused on improving clinical practices and patient outcomes. It will enable them to lead transformational changes, ensuring that health care delivery is both effective and aligned with the principles of HVC.

**Learning Outcomes**

- Master the methodologies that underpin the development and execution of HVC strategies; understand how to leverage tools and technologies to foster continuous outcome measurement, benchmarking and improvement within health care systems.
- Learn the principles of building and fostering learning communities by implementing transparent benchmarking and creating strategic partnerships for value creation.

**Unit 1.**

Tools and technologies for continuous outcome measurement and transparent benchmarking: creation of registries (examples like DICA or Swedeheart); use of registries in clinical research (randomised registries trials).

**Unit 2.**

Creating learning communities: setting the objectives of the learning communities; building and sustaining a learning community; transparency and benchmarking.

**Unit 3.**

Interdisciplinary improvement programmes: Plan-Do-Study-Act (PDSA) methodology; collaborative benchmarking and peer recognition.

**Unit 4.**

Strategic Partnerships and External Collaborations (in the context of improvement/learning communities): public-private partnerships; external alliances with insurances, industries.

# Internal Forces

2 ECTS

UNIDADE LOCAL DE SAÚDE COIMBRA

**Module Description**

This module provides competences on methods and tools to mobilise the core team including all internal stakeholders. It will teach how to analyse internal forces to overcome barriers and address challenges of healthcare organisations. This module will include the description of practical cases locally implemented in surgery care, diabetes and heart failure.

**Learning Outcomes**

- Analyse and operate dimensions of organisation change and theories of change management.

**Unit 1.**

Assessing Organisational Readiness: key indicators of readiness for value-based care, organisational assessment tools and methodologies, case studies on successful transitions.

**Unit 2.**

Strategic Planning for Value-Based Transformation: developing a strategic vision aligned with value-based principles, setting short-term and long-term goals, integrating valuebased care into organisational strategic plans.

**Unit 3.**

Leadership and Change Management: leadership roles in driving value-based initiatives, communication strategies to foster alignment and buy-in.

**Unit 4.**

Stakeholder Engagement and Alignment: identifying and mapping key internal stakeholders, techniques for engaging different stakeholder groups, building interdisciplinary teams focused on value-based outcomes.

**Unit 5.**

Implementing Value-Based Initiatives: practical steps for implementing value-based care models, overcoming operational challenges, monitoring and evaluating implementation efforts.

**Unit 6.**

Performance Measurement and Continuous Improvement: key performance indicators for value-based care, data-driven decision-making, cultivating a culture of continuous improvement and learning.

# External Collaboration

2 ECTS

**Module Description**

"External Collaboration" will show "a new way of partnering for a better way of delivering healthcare". Learners will be introduced to methodologies to mobilise, engage and partner with different external stakeholders, including healthcare managers, decision makers, payers, patient representatives, health authorities and companies. This module will share common best's practices and challenges from different stakeholder types for setting successful partnerships and strategies. HVC paved the way to Value-Based Procurement / Contracting (VBP/C) lever as a new way of purchasing and contracting. To that extent, VBP/C is a key enabler to make HVC and NMDH happen. VBP may be complex, novel and it requires a strong scientific governance. This strong governance will help learners to embrace new ways of collaborating between stakeholders in order to run successfully innovative procurement and contracting approaches.

**Learning Outcomes**

- Detail the stakeholders of interests of each external stakeholder group.
- Learn to select appropriate partners to collaborate in HVC and apply strategies to foster a trusted partnership between stakeholders and deliver sustainable HVC solutions.

**Unit 1.**

Designing the external collaboration: Needs Desirability Assessment (from current practice to integrated, preventive, personalised, value(s) driven and sustainable NMDH), Market Readiness and Feasibility Assessment, Adopters' Feasibility and Viability Evaluation.

**Unit 2.**

Governance: understanding the healthcare context and stakes, identifying the relevant stakeholders (internal & external) and their interest, defining roles & responsibilities for a successful project.

**Unit 3.**

Implementing the VBP/C process, "from sourcing to outcome-based contracting": focus on VBP/C specificities along with public procurement process (sourcing tools, risk management, value characterisation, outcome-based target setting and performance framework including bonus/malus willingness to pay, bias mitigation, KPIs, procedures and contractual levers to foster innovation and secure value creation), legal public procurement references to secure the value and two use cases with key success factors.

**Unit 4.**

Implementing an outcome-based payment model: short recap of the various payment models versus healthcare system types, from "fee-for-service and budget driven" payment models to an "outcome-based and patient driven" payment model, illustrated through use-cases with identifiable key success factors.

# Business Intelligence Tools

3 ECTS

**Module Description**

This module will guarantee healthcare professionals skills around PowerBI and similar tools to infer knowledge and evidence to support NMDH.

**Learning Outcomes**

- Describe the potential benefits of PowerBI.
- Learn the power of business intelligence and data analytics through the building of an effective data warehousing, online analytical processing, data/process mining and visualisation.
- Apply BI tools to analyse data (including PROMs and PREMs) and create reports and dashboards that would boost NMDH.

**Unit 1.**

Power BI Fundamentals: data modelling and connectivity; basic report and visualisation design; dashboard concepts and widgets.

**Unit 2.**

Designing Dashboards for Decision Making: hands-on dashboard design with PROMs/PREMs metrics and/or KPIs; using filters, slicers and dynamic experiences, including PROMs and PREMs; publishing and user interactions.

**Unit 3.**

Processing and Analysing Healthcare Data: cleaning and modelling data from electronic health records, including PROMs/PREMs; creation of multidimensional models (cubes); applying data and process mining techniques (clustering, associations); visualising trends in PROMs/PREMs over time.

**Unit 4.**

Advanced Visualisation and Analysis: dynamic, geospatial and network charts; creating and segmenting KPIs; creating dashboards to analyse drivers of PROMs/PREMs; personalised PROMs/PREMs targets based on patient profiles.

**Unit 5.**

Evaluating the Impact of New Health Delivery Models: assessing KPIs; evaluating correlations between KPIs, PROMS and PREMS; delivering targeted reports on KPIs, PROMs/PREMs performance.

# Smart Sensing

3 ECTS

**Module Description**

This module will present the recent developments in the field smart sensing technologies in healthcare and introducing novel applications for personalised healthcare enabled by recent technological advancements.

**Learning Outcomes**

- Be aware of the technologies available for personalised health monitoring.
- Be capable to describe novel healthcare applications exploiting the availability of personalised data.
- Understand how wearable sand novel sensing technologies and methods support value generation in care delivery.
- Be able to provide of real use cases being developed or currently available.

**Unit 1.**

Wearable and novel sensing technologies in healthcare: Wearable biomedical Sensing; patient and care process monitoring.

**Unit 2.**

Methods leveraging for healthcare improvement and novel applications: Artificial Intelligence; Lean Six Sigma; process Mining.

**Unit 3.**

Smart Sensing Real World Cases; smart Sensing enabling Prevention; smart Sensing enabling Process Improvement; smart Sensing enabling Precision and Personalised care.

By offering training on these contents with customised modules, as well as, establishing and conducting content-based assessment, we intend to support a fellowship programme that will ensure the Upskilling and reskilling of learners in the flagship area of NMDH.

Overall, supporting involved stakeholders to provide evidence to convince payers and policy makers to evolve reimbursement models and to promote the incorporate innovative interventions.

**In the end of the programme:**

Upon completing the Certified Innovation Path - High Value Care (HVC) programme, alongside other modules in the EIT Health-labelled paths, learners will be equipped to lead transformative initiatives that drive the sustainable implementation of new models for delivering healthcare across Europe. The High Value Care Path bridges the gap between theoretical knowledge and real-world HVC implementation, enhancing learners' competencies and capabilities to make meaningful impact.

In this programme, learners will develop a comprehensive skill set and acquire key attributes essential for adopting and implementing HVC in diverse healthcare environments. They will cultivate an open-minded approach, encouraging new ideas and perspectives vital to fostering a culture of continuous improvement and innovation.

Learners will become well-versed in HVC principles and practices, gaining expertise in the latest research, evidence-based strategies, HVC models, integrated care approaches, and sustainability initiatives. Leadership skills will also be sharpened, empowering learners to lead, engage, and align stakeholders collaboratively while prioritizing HVC outcomes.

Additionally, learners will develop anticipation skills, enabling them to proactively navigate future challenges and opportunities in healthcare. A strong focus on sustainability will ensure they are prepared to implement environmentally and economically sustainable healthcare solutions that balance high-quality care with efficient resource use, contributing to the long-term resilience of healthcare systems.

The programme emphasises the importance of co-creating healthcare solutions with patients and stakeholders, helping learners build the capability to collaborate and form meaningful partnerships that reflect the needs and values of patients and their families.
Learners will also benefit from exposure to real-world use cases, both those currently being developed and those already implemented, providing practical insights and actionable strategies for successful HVC adoption.

# Contact us for further inquiries

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