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Interprofessional student-run primary CARE clinics:
A University-Enterprise Knowledge Triangle Cooperation Approach

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ICARE Professional Diploma Modules in Primary Care & Family Medicine

Core & Elective Modules – Curriculum Portfolio

(Developed by the Leader, Co-Leaders of WP4 in collporation with the other partners of the Erasmus+ ICARE Project

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About this Booklet

This booklet presents the complete set of curricula for the ICARE Professional Diploma in Primary Care & Family Medicine, developed within the Erasmus+ Knowledge Triangle Education–Research (KTER) framework by WP4 in collaboration with all project partners.

The program aims to strengthen interprofessional, student-run primary healthcare services through innovative, multidisciplinary, and interprofessional education and training. It equips participants with the competencies to integrate clinical expertise, public health, technology, and research—fostering a new generation of healthcare leaders.

The Professional Diploma consists of:

- Six Core Modules (BM1–BM6)
- Four Elective Modules (eBM1–eBM4), including two capstone project modules (equivalent to 15 ECTS).

Each module follows a standardized curriculum format, including learning objectives, content, teaching methods, and assessment strategies, ensuring alignment with EU standards and partner university practices.

This portfolio is part of the broader ICARE capacity-building initiative, which also includes short-term capacity building and in-service training programs for healthcare professionals.

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Modules List

Professional Diploma Certificate – 6 Core Modules BM1-BM6 Each Module 7,5 ECTS		
Module Code	**Module Name**	**Main contents**
BM1	Primary Care & Family Medicine	Covers PHC principles, holistic care, communication & counselling, common acute & chronic conditions
BM2	Medical Ethics, Equity, Patient Safety & Legal Principles in Primary Care	Ethical frameworks, equity in healthcare, patient safety protocols, legal responsibilities
BM3	Maternal & Child Health: A Primary Care Approach	Antenatal/postnatal care, child growth & development, vaccination, maternal health policies
BM4	Cardiovascular Diseases in Primary Care	Prevention, diagnosis & management of cardiovascular diseases in PHC settings
BM5	Medical Nutrition Therapy in Primary Care	Nutrition assessment, diet planning, managing diet-related chronic diseases
BM6	Primary Care Approach to Mental Health Therapy for Wellbeing	Mental health promotion, early intervention, therapy approaches in PHC

Elective Basic Modules (eBM) Participant can elect at least 15 ECTS Modules			
eBM1	Artificial Intelligence, eHealth, Big Data & Medical	To equip PHC staff with essential knowledge and practical tools in AI, eHealth, Big Data, and telemedicine, improving care accessibility and accuracy.	7,5 ECTS
eBM2	Surgical Innovation	Introduction to surgical advancements & innovations applicable in PHC settings	7,5 ECTS
eBM3	Cognitive Behaviour Therapy & Neurology (CBT)	Integrated CBT & neurology approaches to mental health care	7,5 ECTS
eBM4	Capstone: Methodology & Project Work	Applied research or field project addressing a PHC problem	15 ECTS

The 10 curriculum are following:

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BM1 Primary Care & Family Medicine Credits- 7.5 ECTS

Module Description

Family medicine is the medical specialty that provides continuing, comprehensive health care for the individual and family. It is a holistic discipline integrating biological, clinical, and behavioral sciences. The scope of family medicine encompasses all ages, genders, organ systems, and disease entities. This course develops awareness of the concept, importance, and principles of primary health care (PHC) and family medicine, and introduces basic communication and counselling skills needed to be an efficient family physician.

Strategic Objectives

To develop competent family physicians capable of providing high-quality, patient-centered, comprehensive medical care, covering the biopsychosocial aspects of patients. Learners will apply appropriate ethical and professional standards, manage common health problems in the community, and commit to life-long learning.

Learning Outcomes

By the end of this module, participants will be able to:

- • Explain the principles and scope of family medicine.
- • Apply patient-centered communication and counselling techniques.
- • Manage family planning, maternal and child health, and common acute/chronic conditions.
- • Identify and respond to public health priorities in primary care settings.
- • Integrate digital tools and evidence-based guidelines in clinical decision-making.

Module Curriculum Content

1. Introduction to Family Medicine – importance, principles, communication and counselling skills.

2. Family Planning – public health implications, methods, WHO eligibility criteria, counselling, and bias prevention.

3. Maternal and Child Health – antenatal and postnatal care, neonatal screening, immunization, infant feeding, growth and development assessment.

4. Common Conditions in Primary Care – childhood illnesses, acute emergencies, chronic diseases (diabetes, hypertension, mental health).

5. Patient Safety and Reducing Medical Errors – including Zineldin's 5Qs approach.

6. Integration of Digital Health – use of machine learning and decision-support tools in family medicine.

Teaching & Learning Methods

The module will use a mix of short lectures, interactive seminars, and case-based learning. Participants will engage in simulated clinical scenarios, group discussions, and applied problem-solving exercises.

Assessment

Assessment will be based on participation in case discussions, completion of assignments, and a final quiz.

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BM2-Ethics, Equity & Legal Principles in Primary Care (7,5 ECTS)

This interdisciplinary module is part of the inter-professional student-run primary care clinics initiative under the ICARE Knowledge Triangle Cooperation framework. The module connects academia, healthcare enterprises, and applied research to build a shared platform for learning and practice in real-world community settings. This module focuses on equipping learners with a solid understanding of primary care policy, health equity, ethics, and legal responsibilities as they relate to modern interprofessional health practice. It supports participants , early-career professionals, and in-service staff from medicine, nursing, and public health disciplines to operate ethically and effectively in team-based care.

Course Objectives

- Define the foundational principles of primary care policy, access, and universality.
- Discuss the ethical obligations of clinicians in community and primary care settings.
- Apply equity-focused thinking to clinical decision-making and population care.
- Identify legal responsibilities, patient rights, and consent frameworks in primary care.
- Reflect on how interprofessional collaboration enhances justice and safety in health delivery.

Curriculum Content

1. Overview of Primary Care Policies and the Health System Framework (local and international)
2. Ethical Principles in Family Medicine and Primary Care (autonomy, beneficence, non-maleficence, justice)
3. Legal Regulations: Consent, Confidentiality, Scope of Practice, and Reporting Duties
4. Health Equity in Primary Care: Social Determinants, Cultural Competence, and Inclusion
5. Accountability and Leadership in Student-Run and Team-Based Clinics

Learning Methods

Case-based learning, field observation in student-run clinics, group ethical analysis, policy reading seminars, and mock patient consent simulations.

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BM3- Maternal and Child Health: A Primary Care Approach –7,5 ECTS

Course Description

This course provides a practical, systems-oriented approach to maternal and child health (MCH), with a strong focus on primary care service delivery. It is designed for senior undergraduate health students, interns, nurses, physicians, and other frontline health workers. Emphasis is placed on capacity building in clinical decision-making, community-oriented care, team-based service delivery, and quality improvement. The course is also adaptable for use as an in-service training module.

Learning Outcomes

By the end of this course, participants will be able to:

- Deliver essential maternal, newborn, and child health services within a primary care framework.
- Apply evidence-based clinical protocols and tools for antenatal, intrapartum, postpartum, and pediatric care.
- Collaborate effectively in multidisciplinary teams for maternal and child health management.
- Design and adapt community-responsive interventions addressing key MCH challenges.
- Support and mentor junior staff or community health agents in delivering MCH care.

Curriculum Contents

Introduction to Maternal and Child Health in Primary Care
Reproductive and Maternal Health Services
Newborn Care at Primary Level
Pediatric Preventive and Acute Care
Adolescent and Family Planning Services
Strengthening the Primary Care Team for MCH
Monitoring, Reporting, and Use of Routine Data
Practicum and Applied Skills Integration

Assessment Strategy

Interprofessional group work
Weekly Case Reflections or Logs
Final Quiz Assessment / Simulation

Teaching Methods

- Case-based learning from real primary care settings
- Hands-on to the supervisor practice with protocols and checklists
- Supervised clinical rounds and mentorship
- Reflective journaling and peer feedback

Core Resources

- WHO. Managing Complications in Pregnancy and Childbirth
- WHO. Handbook: IMCI – Integrated Management of Childhood Illness
- National MCH and Primary Care Clinical Guidelines

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BM4- Cardiovascular Diseases in Primary Care (7.5 ECTS)

This advanced diploma module is designed for senior medical students, newly graduated doctors, and residents focusing on the integration of evidence-based cardiovascular care into the primary care setting. It blends pathophysiology, diagnostics, and therapeutics with emphasis on population-level cardiovascular risk management.

Target Group

- Senior medical students
- Family medicine residents
- Recent graduates from medical or nursing schools

Learning Objectives

- Understand the epidemiology and burden of cardiovascular diseases globally and locally.
- Analyze cardiovascular risk factors using current evidence and guidelines.
- Apply theoretical knowledge to interpret ECGs, biomarkers, and imaging in primary settings.
- Critically evaluate pharmacological treatment guidelines (e.g., hypertension, heart failure, ischemic heart disease).
- Identify cardiovascular comorbidities relevant to primary care interventions.
- Discuss lifestyle modifications, behavior change theory, and health promotion.

Core Topics

- Hypertension and its classification and management
- Primary prevention: risk scoring and lifestyle counseling
- Heart failure: recognition and treatment pathways
- Coronary artery disease and acute management protocols
- Atrial fibrillation and stroke prevention in primary care
- ECG interpretation for primary care physicians
- Pharmacological management and prescribing in CVD

Learning Methods

- Lectures and literature-based seminars
- Evidence appraisal and journal reading
- Clinical reasoning workshops
- Online assessments

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BM5- Medical Nutrition Therapy in Primary Care –Curriculum (7.5 ECTS)

Target Group: Senior students and newly graduated health professionals

This diploma-level training module is designed to provide a strong theoretical foundation in medical nutrition therapy (MNT) within the context of primary care and family medicine. It integrates evidence-based principles, pathophysiology, and nutritional biochemistry to equip senior students and early-career physicians with the knowledge required to implement and evaluate nutritional care plans. The course fosters academic inquiry into the links between diet, disease, and long-term outcomes in outpatient and primary care settings.

Course Objectives

- Describe the scientific foundations of human nutrition including micronutrient biochemistry.
- Identify key dietary recommendations based on national and international guidelines.
- Evaluate nutrition-related pathologies such as diabetes and IBD using case literature.
- Design evidence-based MNT protocols for metabolic and chronic diseases.
- Critically review nutrition intervention research in family medicine contexts.

Curriculum Content

1. History and foundations of clinical nutrition.
2. Dietary components: Macronutrients and Micronutrients.
3. Energy balance, BMR, and caloric calculations.
4. MNT for Type 1 and Type 2 diabetes, metabolic syndrome.
5. Nutrition during postpartum and lactation.
6. Inflammatory bowel disease and diet therapy.
7. Nutrition assessment tools and behavior change models.

Learning Methods

- Lectures
- Interprofessional Group work
- Case discussions
- Literature review assignments
- Final quizzes.

Core References and Resources

- WHO. Nutrition advice for adults during the COVID-19 outbreak.
- Academy of Nutrition and Dietetics: Medical Nutrition Therapy in Prevention and Treatment.
- American Diabetes Association. Standards of Medical Care in Diabetes – 2024.

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BM6: Primary Care Approach to Mental Health and Wellbeing Therapy

This 7.5 ECTS training module is designed for senior medical students and recently graduated doctors from both academic and non-academic tracks. It provides a solid theoretical foundation, supported by current evidence-based practices in mental health therapy within the primary care and family medicine setting.

Target Group

- Final-year medical students
- Recent medical graduates (academic and non-academic)
- Family medicine residents
- Primary care physician trainees

Learning Objectives

- Understand the prevalence and burden of mental health disorders in primary care.
- Analyze diagnostic frameworks for psychiatric and psychosomatic disorders.
- Interpret current evidence for pharmacological and psychological treatment models.
- Differentiate between treatment strategies based on patient comorbidities.
- Explain consultation-liaison psychiatry as a bridge between specialties.
- Critically evaluate mental health screening tools and clinical guidelines.

Curriculum Topics

- Fundamentals of Primary Mental Health Care: Scope and Impact
- Evidence-Based Treatment of Anxiety, Depression, and Bipolar Disorder
- Psychosomatic Medicine: Diagnosis and Theoretical Models
- Pharmacotherapy in Primary Mental Health: Prescribing Protocols
- Consultation-Liaison Psychiatry and Collaborative Care
- Mental Health Epidemiology and Screening Tools
- Clinical Guidelines and Case-based Literature Reviews

Teaching Methods

- Interactive lectures
- Literature seminars and critical appraisal
- Group discussions
- Guided clinical observations

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eBM1 & also ISM3: In-Service Training Module

Artificial Intelligence, eHealth, Big Data & Medical Informatics in Primary Health Care (PHC)- 5 ECTS

Target Group

Primary healthcare professionals including physicians, nurses, health informatics staff, allied health professionals, and senior undergraduate or postgraduate students in health sciences.

Module Description

This module introduces participants to the concepts, tools, and applications of Artificial Intelligence (AI), eHealth, Big Data, and medical informatics within the primary healthcare (PHC) setting. It provides both theoretical foundations and practical demonstrations aimed at enhancing healthcare delivery, diagnostic accuracy, patient monitoring, and data-driven decision-making. Through interactive lectures, simulations, and case-based learning, participants will explore how these technologies can improve access, quality, and efficiency of care, while also considering ethical, legal, and policy implications.

Learning Outcomes

- Explain the fundamental concepts and principles of AI, eHealth, Big Data, and their relevance to PHC.
- Identify and evaluate AI tools for clinical decision support, diagnostics, and predictive analytics.
- Understand Big Data acquisition, management, analysis, visualization, and the associated ethical and legal considerations.
- Apply telemedicine and telepathology solutions to improve healthcare delivery in remote or underserved areas.
- Demonstrate proficiency in using electronic health records (EHRs), teleconsultation systems, and AI-supported applications in PHC.

Indicative Content

- Introduction to AI, eHealth, Big Data, and medical informatics in PHC
- AI applications in diagnosis, treatment planning, and predictive modelling
- Big Data collection, integration, and visualization in health systems
- Data protection, privacy regulations, and ethical frameworks for AI and eHealth
- Telemedicine, telepathology, and virtual health services: models and best practices
- Policy frameworks and adoption strategies for AI and eHealth in PHC systems
- Barriers and facilitators to implementation in low- and middle-resource settings

Teaching & Learning Methods

- Interactive lectures and expert seminars
- Case-based learning and group discussions
- Simulations and live demonstrations of AI-powered diagnostic tools
- Hands-on exercises with EHRs and teleconsultation platforms
- Problem-solving workshops to address real-world PHC technology challenges

Assessment Methods

- Short multiple-choice quiz on theoretical concepts
- Group project analysing a case scenario involving AI/eHealth in PHC
- Practical demonstration of an AI or telehealth tool application
- Participation in discussions and problem-solving workshops

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eBM2- -Surgical Innovations (elective)

This in-service training module is designed as part of the ICARE project's continuing education program for practicing healthcare professionals. It focuses on knowledge exchange between surgical experts from participating institutions and elite hospital in Alexandira as associate partner (enterprise) through online sessions. The aim is to update clinical teams on modern surgical techniques, interdisciplinary collaboration, and the integration of surgical expertise into patient-centered primary care frameworks.

Target Group

Practicing physicians, surgeons, primary care professionals, nurses, and surgical unit coordinators working in affiliated institutions or health systems. Participants are expected to have clinical experience and active roles in surgical or perioperative care.

Delivery Format

Online sessions via video conferencing platforms hosted by project partner institutions. May include Q&A, panel discussion, and expert-led presentations.

Objectives

- Update healthcare professionals on modern surgical innovations and international best practices.
- Facilitate interprofessional and cross-border exchange among surgical experts.
- Strengthen the role of surgery within integrated care and continuity of care systems.
- Promote interdisciplinary approaches for pre-operative, intra-operative, and post-operative care.
- Enhance the readiness of non-surgeons (e.g., GPs, nurses) to participate in surgical referral pathways and patient education.

Expected Outcomes

- Participants gain exposure to current surgical practices from partner countries.
- Increased collaboration between surgical teams and primary care providers.
- Improved understanding of surgical workflows to enhance patient outcomes.
- Better preparedness for referral decisions, early complication detection, and coordinated care.

Core Topics

- Minimally invasive and laparoscopic surgery updates
- Patient safety and surgical quality assurance
- Primary care's role in surgical referrals and post-op follow-up

- Technological advances: robotics, imaging, and AI in surgery
- Cross-cultural surgical case management and protocols
- Surgical complications and primary care-based early detection
- Panel discussions on surgical case studies from partner countries

Case Presentation: Online Surgical Case Example

An actual surgical case was shared and discussed among expert participants during one of the live sessions. The case illustrated diagnostic and procedural challenges in the context of laparoscopic surgery. Expert surgeons from partner countries reviewed surgical steps, interdisciplinary management, and cross-cultural treatment approaches. Participants engaged in reflective discussion about patient safety, complication prevention, and improving collaboration between surgical and non-surgical units.

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eBM3- Cognitive Behaviour Therapy (CBT) and Neurology-(7.5 ECTS)

Module Description

This module provides an in-depth understanding of Cognitive Behaviour Therapy (CBT) and its integration with neurology and psychopharmacology for the management of common mental health conditions. Participants will explore the principles, techniques, and practical applications of CBT, along with neurological aspects that affect mental health, such as brain–mind interactions. The course emphasises a holistic and evidence-based approach, integrating medical and psychological perspectives to improve patient outcomes.

Objectives

To equip health professionals with the theoretical knowledge and practical skills to apply CBT in clinical practice, integrating neurological understanding and, when necessary, pharmacological approaches to manage mental health conditions effectively.

Learning Outcomes

Upon completion of the module, participants will be able to:

1. Explain the theoretical foundations and principles of CBT.
2. Describe key neurological processes involved in mental health conditions.
3. Apply CBT techniques to a range of mental health issues, including depression, anxiety, and addiction.
4. Integrate CBT with psychopharmacology where appropriate for optimal patient care.
5. Construct structured CBT treatment plans and conduct sessions effectively.

Content Outline

- Introduction to CBT – principles, phases, and theoretical foundations.
- The neurological basis of mental health disorders – brain–mind interactions.
- CBT techniques – cognitive restructuring, behavioural activation, and exposure methods.
- Formulating cases and identifying cognitive distortions.
- Constructing and conducting CBT sessions.
- Integrating CBT with pharmacological treatment (psychopharmacotherapy).
- Holistic approaches to mental health – combining physical, emotional, and behavioural interventions.
- Case studies: depression, anxiety, bipolar disorder, schizophrenia, OCD, and internet addiction.
- Ethical considerations and patient safety in CBT practice.

Teaching and Learning Methods

• Interactive lectures by multidisciplinary faculty.
• Case-based discussions and real-life clinical scenarios.
• Role-play and practical demonstrations of CBT techniques.
• Group work on case formulation and treatment planning.
• Independent study and guided reading.

Assessment

- Lectures and Seminars
- Practical demonstration/role-play of CBT techniques.
- Short quiz to assess theoretical understanding.
- Active participation in discussions and interprofessional group work.

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eBM4- Capstone: Methodology & Project Work – Applied Research or Field Project in PHC (15 ECTS)

Type: Applied, project-based module

Prerequisites: Completion of core PHC and Family Medicine modules

Description

Tis capstone module provide the opportunity to integrate and apply their knowledge, skills, and competencies acquired throughout the program by conducting a supervised research or field project addressing a real-world Primary Health Care (PHC) problem.

Learning Outcomes

By the end of this module, students will be able to:

1. Formulate a clear, researchable PHC-related problem or question.
2. Design an appropriate methodological approach, using either quantitative, qualitative, or mixed methods.
3. Collect, analyze, and interpret relevant data ethically and accurately.
4. Propose practical solutions or recommendations to address the identified PHC problem.
5. Communicate findings effectively in written and oral formats to academic, professional, and community stakeholders.

Module Contents / Topics

- Introduction to Capstone Projects – purpose, expectations, and scope.
- Problem Identification & Literature Review – defining the PHC problem, reviewing evidence.
- Research Design & Methodology – selection of study design, sampling, tools, and procedures.
- Ethics in PHC Research – informed consent, confidentiality, and community engagement.
- Data Collection & Management – fieldwork, surveys, interviews, observational studies.
- Data Analysis Techniques – basic statistical analysis and qualitative data coding.
- Solution Development – translating findings into actionable recommendations.
- Report Writing & Dissemination – preparing the final report, creating presentations, and communicating results.

Teaching & Learning Methods

- Each participant got opportunity to select a supervision from the academic and non academic project collaborators. There will also be One-to-one or small group supervision
- Methodology workshops
- Independent project work

- Peer feedback sessions

Assessment

- Project Proposal (20%) – submission of a detailed plan with objectives, methods, and timelines.
- Final Report (50%) – a structured report including background, methodology, findings, discussion, and recommendations.
- Oral Presentation (20%) – presentation of project outcomes to peers, faculty, and stakeholders.
- Participation & Engagement (10%) – active involvement in supervision meetings and workshops.