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DIGI4Care

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DIGI4Care – Institutional Action Plan – Semmelweis University, Health Services Management Training Center (EMK), Hungary

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Introduction

From Transnational Strategy to Institutional Action: Sustaining the Uptake of Digital Health Solutions

This document forms part of Deliverable D1.4.3 (Output O1.4) of the DIGI4Care project (DRP0200543), co-funded by the European Union through the Interreg Danube Region Programme. The deliverable unfolds within the framework of Specific Objective 1 (SO1) of the project, "Enabling the uptake of digital solutions in healthcare, from prevention to rehabilitation", which culminates in the Digitally Enabled Integrated Care Model Strategy (ICM Strategy, O1.3) and the corresponding institutional-level Action Plans (O1.4), validated by the transnational uptake cases of the SO2 pilots. The Institutional Action Plans represent the final, institution-level layer of the project's strategic work under Work Package 1. They build directly on the Digitally Enabled ICM Strategy (O1.3 / D1.4.2), which serves as the joint roadmap for tackling the key dimensions of introducing digital technologies throughout the patient journey — technology uptake and financing, data, regulatory and ethical aspects, care pathways, and workflow and skills. By translating the ICM Strategy into concrete, institution-level actions that support the integration, uptake and scale-up of the digital health solutions tested in the DIGI4Care pilots, both the Strategy and the Action Plans draw on the evaluation work of Work Package 2, in particular the ICM Evaluation Report (D2.5.2) and the Pilot Evaluation Reports, which consolidate the outcomes, results and lessons learned of the four pilots. Where relevant, the Action Plans also capitalise on other key project results, including the Knowledge Platform and Radar (O1.2), the Training and Capacity-building Toolbox (O3.1), the Data Management Model (O2.2), the Dashboard (O3.2) and the university curricula (D3.3.1). In this way, the Action Plans serve as the bridge between the project's transnational strategic outputs and their sustained, institution-level application after project closure.

The Action Plan document starts with an overview presenting the implementation setting, the related pilot(s) and pilot-tested solutions, the timeframe of the plan and the arrangements for its after-project life, and lists the set of actions the partner commits to deliver. The main part contains the detailed Action Sheets, specifying for each action the technical solution, SMART objectives, implementation milestones, resource allocation, and a framework for monitoring KPIs, mitigating risks, and ensuring the long-term sustainability and after-project life of the results.

Among the eight Institutional-level Action Plans elaborated by the project partners, the present document contains the Institutional Action Plan of of Semmelweis University, Health Services Management Training Center (EMK) (SOTE HU), Hungary.

Executive Summary

The Semmelweis EMK Action Plan includes three actions. The first action provides a professional scaling-up platform for Pilot 1 by organizing a high-level stakeholder workshop within six months of project closure, involving at least five key stakeholder organizations, and producing a formal scaling roadmap for AI-based diabetic retinopathy screening. The second action institutionalizes pilot findings by incorporating at least three validated use-cases into the MSc in Health Data Science and the "Current and Future Healthcare" subjects for the 2026/27 academic year, targeting a minimum of 30 enrolled students. The third action integrates relevant elements from the DIGI4Care Data Management Model into the EMK's internal research guidelines, with formal adoption of an institutional protocol and training of 100 percent of relevant research staff.

The actions are connected to specific DIGI4Care outputs, including the Training and Capacity-building Toolbox (O3.1), the Data Management Model (O2.2), the Dashboard (O3.2) and the university curricula (D3.3.1). Sustainability is ensured through institutional embedding: the stakeholder network coordination becomes part of EMK's regular academic and advisory operations, the pilot-based modules become standard components of accredited study programmes maintained through the university's core teaching budget, and the refined data protocols are preserved within EMK's internal Quality Management System.

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Action Plan Overview

The table below presents the general information on the Action Plan of Semmelweis EMK:

Institution / Partner	Semmelweis University
Country	Hungary
Contact person (name, role, email)	Réka Kovács project manager
Implementation setting	x Own institution ☐ With ASP(s) x Pilot organisation(s) x Other: stakeholders involved
Related pilot(s) / solutions (if relevant)	Pilot 1 (DR), Pilot 2 (POCUS), Data Management Model (O2.2)
Timeframe of this Action Plan	Start: 01/06/2026 End: 31/05/2027
After-project life	x Routine operations ☐ Budget line x Ownership assigned ☐ Other: _____

The following table summarises the actions Semmelweis EMK commits to deliver within this Action Plan:

Action #	Action title	Dimension(s)	Owner	Start-End
1	Scaling-up Platform for AI-based DR Screening	Care pathway / Tech uptake	EMK EU Project Portfolio & AI Portfolio Knowledge Centres	2026/06 – 2026/12

2	Curriculum Integration of Pilot Use-cases	Workflow & skills	EMK EU Project Portfolio & Education and Training Knowledge Centres	2026/06 – 2027/05
3	Institutional Standard for Research Data	Data / Regulatory	EMK EU Project Portfolio & AI Portfolio Knowledge Centres	2026/06 – 2026/12

Priority Action 1 - Action Sheet

Institution / Partner	Semmelweis University EMK
Target organisation	x Own institution ☐ ASP x Pilot organisation x Other: stakeholders involved
Related pilot-tested solution / technology	Pilot 1: AI-based Diabetic Retinopathy (DR) Screening
Dimension(s) (tick)	x Tech uptake & financing ☐ Data ☐ Regulatory/ethical x Care pathway ☐ Workflow & skills
Action title (one line)	Providing a professional scaling-up platform for Pilot 1 via stakeholder workshops.
Problem/opportunity	Diabetic retinopathy (DR) remains a leading cause of preventable blindness in Hungary, yet the current reactive, referral-based screening model suffers from critical fragmentation and low adherence, with participation rates consistently below 50%. Pilot 1 findings confirmed a major access gap, revealing that over 60% of the high-risk diabetic patients enrolled had not attended a dilated eye examination in the past three years. The Hungarian primary care system is understaffed and unorganized for systematic DR screening, creating a 'reactive escalation' model instead of proactive prevention. There is a strategic opportunity to institutionalize the inter-disciplinary cooperation (GP-Ophthalmologist-University) initiated

	during DIGI4Care to transition AI-based screening from a research pilot into a permanent, data-driven preventive service that eliminates access barriers and prevents vision loss on a national level.
Objective (SMART)	Organize a high-level professional workshop within 6 months of project closure with at least 5 key stakeholders organisation to define a national scaling roadmap for AI-based DR screening
Main steps (bullets)	• Consolidate final pilot results and the business case developed by HoCons. • Invite clinical leaders (Ophthalmology/Diabetology) and policy-makers (NDGH/NEAK). • Host a professional workshop to discuss ways of upscaling. • Draft a joint proposal for "National Roadmap for AI Retinopathy Screening Expansion"
Timeline (start/end + 3 milestones)	Start: 01/06/2026 End: 31/12/2026 M1: Stakeholder invitation list and agenda finalized (Month 2) M2: Workshop execution and discussion of the financing model (Month 4) M3: Scaling roadmap document published and disseminated (Month 6).

Responsible actors	Owner: SE EMK Pilot 1 Coordinator Sponsor: SE EMK Director Key contributors (roles): SE Lead Partner team, National Directorate General for Hospitals (NDGH - ASP1)
Resources & budget / funding	People/time: SE EMK staff time (20 days) Budget categories: ☐ licence ☐ integration ☐ training ☐ support X other: salary of SE EMK staff Rough amount (EUR): - Funding: ☐ internal x external/grant ☐ partner
KPIs + data source	KPI 1: Number of participants (min. 15) KPI 2: Formal scaling roadmap produced Data source(s): attendance list, minutes, and the roadmap.
Risks + mitigations (max 3)	1) Low stakeholder engagement and institutional commitment: Key institutional players or experts may fail to prioritize the workshops due to competing policy goals or organizational changes. Mitigation: Leverage the institution's established professional networks and leadership roles in strategic initiatives to maintain high-level interest. 2) Lack of consensus on the proposed scaling model: Participating experts and organizations may hold diverging views on the implementation details or the workflow, preventing the adoption of a unified roadmap. Mitigation: Provide a robust, data-driven evidence package based on pilot results (clinical and business case) to serve as an objective foundation for consensus-building.

	3) Operational and resource-related delays: The finalization or publication of the roadmap may be delayed beyond the 6-month target due to limited administrative capacity or unforeseen technical bottlenecks after the project funding ends. Mitigation: Initiate data synthesis and stakeholder mapping in the final months of the project to ensure a smooth transition and secure necessary internal human resources for completion.
Sustainability & after-project life	How will this remain active after the project? The SE EMK will act as the institutional home for the Pilot 1 stakeholder network, integrating the coordination tasks into its regular academic and advisory operations How will it support scale-up/transfer? It transforms Pilot 1's temporary results into a validated professional proposal, providing other regions with a "ready-to-submit" clinical and economic blueprint for national scale-up.

Priority Action 2 - Action Sheet

Institution / Partner	Semmelweis University (EMK)
Target organisation	x Own institution (Faculty of Medicine, Faculty of Public Health Sciences) ☐ ASP ☐ Pilot organisation ☐ Other: _____
Related pilot-tested solution / technology	DIGI4Care Pilot Use-cases (DR, POCUS, Cardiovascular telemonitoring)
Dimension(s) (tick)	☐ Tech uptake & financing ☐ Data ☐ Regulatory/ethical ☐ Care pathway x Workflow & skills
Action title (one line)	Institutionalizing pilot findings as practical use-cases in university curricula.
Problem/opportunity	Significant skill gap in digital technology uptake and AI-based decision support among the future medical and healthcare management workforce.
Objective (SMART)	Incorporate at least 3 validated pilot use-cases into the "MSc in Health Data Science" and the "Current and Future Healthcare" subjects for the second semester of 2026/27 academic year.
Main steps (bullets)	• Conduct consultations on DIGI4Care Training Toolbox (O3.1) and curricula (D3.3.1) with programme leaders and course lecturers to get familiarized with those results and the project itself. • Identify opportunities for integrating DIGI4Care pilot outcomes into MSc curricula and incorporate them as case studies in relevant courses and lecture modules.

	• Develop tailored educational content and case-based learning materials based on DIGI4Care deliverables, aligned with the identified curriculum integration opportunities, programme characteristics, and student needs. • Implement the developed content within the selected MSc courses and deliver the updated lectures and learning activities during the spring semester.
Timeline (start/end + 3 milestones)	Start: 01/06/2026 End: 31/05/2027 M1: Selection of use-case narratives and data sets (Month 4) M2: Customisation of selected use cases to align with course-specific learning objectives and delivery to course coordinators (Month 6) M3: Implementation of the use cases in teaching activities and collection of feedback and lessons learned (Month 9)
Responsible actors	Owner: Head of EMK Teaching Dept. Sponsor: Programme Directors and Responsible Course Leaders Key contributors: Project pilot managers and academic staff.
Resources & budget / funding	People/time: Academic lecturers (10 days) Budget categories: ☐ licence ☐ integration ☐ training ☐ support x other: staff salaries, covered by internal teaching budget Rough amount (EUR): - Funding: x internal ☐ external/grant ☐ partner
KPIs + data source	KPI 1: Number of students enrolled (min. 30).

	KPI 2: Integration of use cases into teaching activities as case-based learning examples and support for practice-oriented education Data source: Attendance records, course documentation, teaching materials, presentation slides
Risks + mitigations (max 3)	1) Delays in course-level integration: The consultation and review process with programme directors and course leaders and lecturers may take longer than expected before use cases can be embedded into relevant courses and teaching activities. Mitigation: Early stakeholder engagement and continuous follow-up throughout the integration process. 2) Content Obsolescence: Digital health technologies evolve rapidly, making static use-cases potentially outdated within 1-2 years. Mitigation: Instead of relying on external platforms, implement an annual internal review of the modules within the Teaching Department's Quality Management System, incorporating findings from later experience
Sustainability & after-project life	How will this remain active after the project? The pilot-based modules will become a standard component of the accredited "MSc in Health Data Science" and "Current and Future Healthcare" subjects. Maintenance and delivery will be handled as part of the routine academic operations of the SE EMK Teaching Department, funded by the university's

	core teaching budget rather than project-based grants. How will it support scale-up/transfer? It creates a long-term human capacity by training at least 30 professionals annually who are equipped to implement digital care models nationwide. The curriculum framework (D3.3.1) remains available for other medical faculties to adopt, serving as a tested blueprint for digital health education.

Priority Action 3 - Action Sheet

Institution / Partner	Semmelweis University EMK
Target organisation	x Own institution ☐ ASP ☐ Pilot organisation ☐ Other: _____
Related pilot-tested solution / technology	Data Management Model (O2.2) and Dashboard (O3.2)
Dimension(s) (tick)	☐ Tech uptake & financing x Data x Regulatory/ethical ☐ Care pathway ☐ Workflow & skills
Action title (one line)	Uptake elements of the DIGI4Care Data Management Model to improve internal data management framework with special focus on multi-country experiences.

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Problem/opportunity	Existing institutional data protocols often lack specific provisions for multi-center transnational data flows and interoperability. The DIGI4Care project provides a validated Data Management Model (O2.2) and specific lessons from multi-country pilot implementation which can be integrated into existing data management framework.
Objective (SMART)	Integrate relevant lessons and templates from the project's Data Management Model (O2.2) into EMK's internal research guidelines by Dec 2026.
Main steps (bullets)	• Conduct a deep-dive review of the finalized DIGI4Care Data Management Model (O2.2) and identify reusable elements and data templates from it. • Update internal research guidelines with these project-tested data processing protocols. • Organize an internal training session for the research and IT staff.
Timeline (start/end + 3 milestones)	Start: 2026/06/01 End: 2026/12/31 M1: Data Management Model review (Month 2). M2: Update of the internal research guidelines (Month 4). M3: Staff training completed (Month 6).
Responsible actors	Owner: SE EMK IT and Research Specialist, DPO Sponsor: SE EMK Director Key contributors (roles): AI Knowledge Platform Lead
Resources & budget / funding	People/time: IT and AI specialists and legal experts (20 days)

	Budget categories: ☐ licence ☐ integration ☐ training ☐ support ☐ other: staff cost for expert review and training Rough amount (EUR): - Funding: x internal ☐ external/grant ☐ partner
KPIs + data source	KPI 1: Formal adoption of the institutional protocol. KPI 2: 100% of relevant research staff trained. Data source: Internal regulation registry and training attendance logs.
Risks + mitigations (max 3)	1) Difficulty in identifying the most relevant reusable elements: The project's Data Management Model (O2.2) is complex, and selecting elements fitting to institutional use may require more expert time than anticipated. Mitigation: Convene a cross-functional review session (IT, Legal, Research) to vet O2.2 elements against current institutional RDI needs, such teamwork will support the best uptake. 2) Limited administrative capacity for finalization: Integrating the lessons into internal guidelines and delivering the staff training may be delayed due to routine institutional workload after project funding ends. Mitigation: Formally incorporate the finalization of the data standard into the department's official Annual Work Plan and Quality Management goals, ensuring that the required staff time is protected as a core institutional priority.

Sustainability & after-project life	How will this remain active after the project? The refined data protocols will be preserved as internal reference templates within the SE EMK's permanent Internal Quality Management System (QMS). This ensures that the DIGI4Care lessons (O2.2) remain a standard resource for future AI-driven health research, maintained as part of routine institutional governance without requiring extra project-based funding. How will it support scale-up/transfer? It serves as a validated institutional blueprint for clinical data processing that can be shared across other university faculties. By providing project-tested solutions for common technical and legal hurdles, it reduces the preparation time and risk for future digital health initiatives within the university ecosystem.

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