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DIGI4Care – Institutional Action Plan – DHI Cluster Bulgaria, Bulgaria

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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 the DHI Cluster Bulgaria (DHI BG), Bulgaria.

Executive Summary

The DHI Cluster Bulgaria Action Plan comprises four actions, building on Pilot 1 (AI-based diabetic retinopathy screening and cardiovascular risk stratification) and Pilot 3 (remote patient monitoring and digital rehabilitation). The first action raises awareness and builds stakeholder alignment for the integration of digital screening into routine care, through a stakeholder map, policy briefs, capacity building of Ministry of Health staff, workshops for healthcare professionals and the establishment of advocacy groups and clinical champions. The second action develops a reimbursement model for digital screening services, to be co-designed with the National Health Insurance Fund (NHIF), tested in 2–3 pilot sites and submitted to the NHIF as a validated proposal by December 2027. The third action conducts a national awareness and screening campaign for diabetic retinopathy using AI-based solutions, targeting 5,000–15,000 patients screened across multiple Bulgarian regions, with a structured referral pathway to ophthalmology services. The fourth action pilots a one-year hospital-based remote patient monitoring and digital rehabilitation programme for at least 500 post-cardiac patients, with staged enrolment, defined clinical response protocols and linkage to hospital EHR data.

The actions are coordinated through a cross-functional task force comprising DHI Cluster Bulgaria, the Ministry of Health, the NHIF and partner hospitals, which aligns timelines, budgets, reporting and integration into routine care. All actions are aligned with Bulgaria's Digital Health Strategy 2025–2030. The KPI framework covers stakeholder engagement, completion and piloting of the reimbursement model, the number of patients screened and referred, patient adherence and reduction in rehospitalisations. Sustainability is addressed through institutionalisation: the campaign model can be established as a national screening programme, the reimbursement model is designed to become a reimbursed national service, and the remote monitoring programme can be integrated into standard post-discharge care pathways.

Action Plan Overview

The table below presents the general information on the Action Plan of DHI Cluster Bulgaria:

Institution / Partner	DHI Cluster Bulgaria
Country	Bulgaria
Contact person (name, role, email)	Mira Ganova, PhD, mira.ganova@dhicluster.bg
Implementation setting	☐ Own institution ✓ With ASP(s) ✓Pilot organisation(s) ☐ Other: _____
Related pilot(s) / solutions (if relevant)	Pilot 1 - AI-based DR screening + CVD risk stratification (Hubis, Check Point Cardio + AI) Pilot 3 - Remote patient monitoring and digital rehabilitation (wearables + clinical monitoring)
Timeframe of this Action Plan	Start: 01/06/2026 End: 31/12/2027
After-project life	✓ Routine operations ✓ Budget line ✓Ownership assigned ☐ Other: _____

The following table summarises the actions DHI Cluster Bulgaria commits to deliver within this Action Plan:

Action #	Action title	Dimension(s)	Owner	Start-End
1	Awareness & stakeholder alignment for digital screening integration	Tech uptake & financing / Regulatory / Care pathway / Workflow & skills	DHI Cluster, MoH	06/2026–12/2027
2	Reimbursement model for digital screening services	Tech uptake & financing / Care pathway	NHIF, MoH, DHI Cluster	06/2026–12/2027
3	National awareness and AI-based diabetic retinopathy screening campaign	Tech uptake & financing / Data / Regulatory / Care pathway / Workflow & skills	DHI Cluster, MoH, private partner	06/2026–07/2027
4	Hospital-based remote monitoring and digital rehabilitation for post-cardiac patients	Tech uptake & financing / Data / Regulatory / Care pathway / Workflow & skills	Partner hospitals, DHI Cluster	09/2026–12/2027

Cross-cutting governance: A cross-functional task force comprising DHI Cluster Bulgaria, the Ministry of Health, NHIF and partner hospitals will coordinate timelines, budgets, reporting and integration into routine care across all actions. All actions are aligned with Bulgaria's Digital Health Strategy 2025–2030.

Priority Action 1 - Action Sheet

Institution / Partner	DHI Cluster Bulgaria, Ministry of Health
Target organisation	✓Own institution ✓ASP ✓Pilot organisation ☐ Other: _____
Related pilot-tested solution / technology	AI-based DR screening and digital CVD risk stratification
Dimension(s) (tick)	✓Tech uptake & financing ☐ Data ✓Regulatory/ethical ✓Care pathway ✓Workflow & skills
Action title (one line)	Raise awareness and build stakeholder alignment for integration of digital screening
Problem/opportunity	Low awareness limits adoption and policy integration of digital screening solutions
Objective (SMART)	Achieve national stakeholder awareness, establish a cross-functional coordination mechanism and initiate policy alignment for integration of digital screening into routine care by December 2027. Aligned with Bulgaria's Digital Health Strategy 2025–2030 and coordinated through a cross-functional task force involving DHI Cluster, MoH, NHIF and partner hospitals.
Main steps (bullets)	• Draft a stakeholder map covering MoH, NHIF, HCP associations, patient organisations, NGOs, pilot sites and EU representatives • Develop policy briefs and communication materials • Build capacity of MoH staff through policy-

	oriented briefings • Conduct workshops and awareness sessions for HCPs • Train technical teams on platform use and implementation requirements • Disseminate pilot results nationally and at EU level, led by DHI Cluster with MoH endorsement • Establish advocacy groups and identify clinical champions among decision-makers
Timeline (start/end + 3 milestones)	Start: 01/06/2026 End: 31/12/2027 M1: Stakeholder map and communication materials completed – Q3 2026 M2: Workshops completed and results documented – Q2 2027 M3: Policy dialogue initiated – Q3 2027 Feedback integration and final alignment – Q4 2027
Responsible actors	Owner: DHI Cluster Bulgaria Sponsor: Ministry of Health Key contributors: NHIF, HCP associations, patient organisations, pilot sites, EU representatives MoH contribution: designated staff time and participation in stakeholder meetings
Resources & budget / funding	People/time: Communication experts, clinical experts, policy experts and technical trainers Budget categories: ☐ licence ☐ integration ✓ training ✓ support ✓ other: stakeholder engagement and communication Training allocation: MoH staff capacity building; HCP workshops; technical-team platform training

	Rough amount (EUR): 10,000 Funding: ✓ internal ☐ external/grant ✓ partner
KPIs + data source	KPI 1: Number and diversity of stakeholders engaged KPI 2: Number of workshops, policy discussions and formal follow-up actions KPI 3: Evidence of integration into routine-care planning or policy documents Data sources: stakeholder map, event reports, meeting records, policy documents
Risks + mitigations (max 3)	1) Low engagement -> targeted outreach 2) Misunderstanding -> data-driven communication 3) Resistance -> clinical champions
Sustainability & after-project life	How will this remain active after the project? Remains active through continued stakeholder engagement and policy integration How will it support scale-up/transfer? Supports scale-up by building institutional readiness

Priority Action 2 - Action Sheet

Institution / Partner	National Health Insurance Fund, Ministry of Health, DHI Cluster Bulgaria
Target organisation	☐ Own institution ✓ASP ☐ Pilot organisation ☐ Other: _____
Related pilot-tested solution / technology	AI-based DR screening and CVD risk stratification
Dimension(s) (tick)	✓ Tech uptake & financing ☐ Data ☐ Regulatory/ethical ☐ Care pathway ☐ Workflow & skills
Action title (one line)	Introduce reimbursement model for digital screening services
Problem/opportunity	Lack of reimbursement prevents scaling of pilot-tested solutions
Objective (SMART)	Develop, test in 2–3 pilot sites and submit a validated reimbursement model for AI-based digital screening services to NHIF by December 2027, supporting integration into routine care and alignment with Bulgaria's Digital Health Strategy 2025–2030.
Main steps (bullets)	• Engage NHIF's clinical economics team from the outset and co-design the model • Define the digital screening service package and eligible patient groups • Develop cost-effectiveness and budget-impact analyses with external health economists • Define infrastructure, interoperability and data-flow requirements

	• Pilot the reimbursement model in 2–3 sites • Evaluate provider uptake, patient coverage, outcomes and costs • Submit the reimbursement proposal to NHIF and support the review process
Timeline (start/end + 3 milestones)	Start: 01/07/2026 End: 31/12/2027 M1: Co-designed service package and cost model completed – Q3 2026 M2: Reimbursement pilot completed in 2–3 sites – Q2 2027 M3: Final proposal submitted to NHIF – Q4 2027 NHIF review and response follow-up – Q4 2027
Responsible actors	Owner: NHIF Sponsor: Ministry of Health Key contributors: DHI Cluster Bulgaria, NHIF clinical economics team, external health economists, clinicians, pilot sites Coordination: cross-functional task force with MoH, NHIF, DHI Cluster and hospitals
Resources & budget / funding	People/time: NHIF clinical economics team, external health economists, clinicians, IT/interoperability experts and site coordinators Budget categories: ☐ licence ✓ integration ☐ training ✓ support ✓ other: cost-effectiveness modelling and pilot evaluation Integration covers: infrastructure setup, interoperability, secure data exchange and reporting configuration Rough amount (EUR): 30,000 Funding: ✓ internal ✓ external/grant ☐ partner

KPIs + data source	KPI 1: Reimbursement model and tariff proposal completed KPI 2: Pilot implemented in 2–3 sites KPI 3: Provider adoption – % of eligible providers actively using the service KPI 4: Patient coverage – % of eligible patients screened through the model KPI 5: NHIF formal review initiated and routine-care integration assessed Data sources: NHIF data, pilot-site activity reports, screening platform data
Risks + mitigations (max 3)	1) Policy delay -> early engagement 2) Budget limits -> phased rollout 3) resistance -> stakeholder involvement
Sustainability & after-project life	How will this remain active after the project? Becomes reimbursed national service How will it support scale-up/transfer? Enables full-scale adoption

Priority Action 3 - Action Sheet

Institution / Partner	DHI Cluster Bulgaria, private partner, MoH
Target organisation	☐ Own institution ✓ASP ✓Pilot organisation ☐ Other: MoH - Regional Health Inspectorates
Related pilot-tested solution / technology	AI-based diabetic retinopathy screening (Pilot 1)
Dimension(s) (tick)	✓Tech uptake & financing ✓Data ✓Regulatory/ethical ✓Care pathway ✓Workflow & skills
Action title (one line)	Conduct national awareness and screening campaign for diabetic retinopathy using AI screening solutions
Problem/opportunity	Low screening coverage and lack of systematic DR detection lead to late diagnosis and preventable vision loss Pilot 1 demonstrates that AI-based screening at primary care level is feasible and scalable
Objective (SMART)	Screen 5,000–15,000 patients across multiple Bulgarian regions, establish a structured referral pathway and demonstrate the feasibility of integrating AI-based diabetic retinopathy screening into routine prevention and primary care by July 2027, in alignment with Bulgaria's Digital Health Strategy 2025–2030.
Main steps (bullets)	• Expand proven designs and operational capacity from existing screening campaigns • Define the role of the private partner in

	equipment, licences, logistics and financial support • Submit a formal campaign proposal to the Ministry of Health by Q3 2026 • Deploy mobile and community-based screening using AI solutions • Engage RHIs, municipalities and local healthcare providers • Train field teams and ensure equipment backup and technical support • Define automated referral triggers and structured referral pathways to ophthalmology services • Include the MoH monitoring team in compliance and quality audits • Present campaign results to MoH, RHIs and relevant EU stakeholders
Timeline (start/end + 3 milestones)	Start: 01/06/2026 End: 31/07/2027 M1: Campaign design, partner roles and formal MoH proposal completed – Q3 2026 M2: Screening campaign rolled out in selected regions – Q4 2026 to Q2 2027 M3: Final evaluation and national scale-up proposal presented to MoH, RHIs and EU stakeholders – Q3 2027
Responsible actors	Owner: DHI Cluster Bulgaria Sponsor: Private partner Key contributors: Ministry of Health, MoH monitoring team, Regional Health Inspectorates, municipalities, hospitals, ophthalmologists and primary-care providers MoH contribution: allocation of 3–5 field officers for campaign coordination and compliance monitoring

	Private-partner role: equipment/licensing, logistics and agreed financial support
Resources & budget / funding	People/time: Campaign manager, 3–5 MoH/RHI field officers, trained screening teams, ophthalmologists, data manager and technical support Budget categories: ✓ licence ✓ integration ✓ training ✓ support ✓ other: travel, mobile logistics, data management and storage Budget coverage: device licensing, field-team training, transport, staffing, equipment backup, data management and communication Rough amount (EUR): 150,000 Funding: ☐ internal ☐ external/grant ✓ partner
KPIs + data source	KPI 1: Number of patients screened (target: 5,000–15,000) KPI 2: % high-risk / positive DR cases identified KPI 3: % of AI-positive patients successfully referred to ophthalmology KPI 4: Number of regions and screening sites activated KPI 5: Evidence of readiness for integration into routine prevention and primary care Data sources: screening database, referral records, campaign reports, compliance-audit reports
Risks + mitigations (max 3)	1) Low participation → local partnerships and targeted awareness activities 2) Technical issues → trained staff, backup equipment and technical support 3) Follow-up gaps → automated referral triggers and coordinated ophthalmology pathway

	4) Low institutional engagement → MoH monitoring team involvement and formal reporting
Sustainability & after-project life	How will this remain active after the project? Campaign model can be institutionalized as national screening program How will it support scale-up/transfer? Supports integration of DR screening into routine primary care and prevention programs

Priority Action 4 - Action Sheet

Institution / Partner	DHI Cluster Bulgaria, hospitals
Target organisation	☐ Own institution ✓ASP ✓Pilot organisation ☐ Other: Hospitals
Related pilot-tested solution / technology	Pilot 3 – Remote patient monitoring and digital rehabilitation (wearables + clinical monitoring)
Dimension(s) (tick)	✓Tech uptake & financing ✓Data ✓Regulatory/ethical ✓Care pathway ✓Workflow & skills
Action title (one line)	Pilot a one-year hospital-based remote patient monitoring and rehabilitation program for post-cardiac patients
Problem/opportunity	Post-discharge patients with CVD and diabetes lack structured follow-up and continuous monitoring, leading to high rehospitalization rates and suboptimal outcomes Pilot 3 demonstrates that remote monitoring improves adherence and enables early intervention when integrated into clinical workflows
Objective (SMART)	Implement and evaluate a hospital-based remote monitoring and digital rehabilitation programme for at least 500 post-cardiac patients, with staged enrolment, defined clinical response protocols and linkage to hospital EHR data, by December 2027. The action supports

	integration into routine post-discharge care and Bulgaria's Digital Health Strategy 2025–2030.
Main steps (bullets)	• Select partner hospitals and sign a data-sharing and implementation agreement • Conduct an initial 3-month pilot and define the clinical protocol (30-day plus extended monitoring) • Procure devices, platform access and maintenance/warranty support • Allocate cardiology and nurse staff and define real-time alert workflows linked to hospital EHRs • Enrol eligible post-discharge patients and provide structured onboarding and education • Monitor patients remotely with defined escalation and clinical response protocols • Evaluate adherence, rehospitalisations, clinical workload and readiness for scale-up
Timeline (start/end + 3 milestones)	Start: 01/09/2026 End: 31/12/2027 M1: Clinical protocol, data-sharing agreement and hospital onboarding completed – Q3 2026 M2: 50 patients enrolled by Q3 2026 and 100 patients enrolled by Q4 2026 M3: Programme expanded toward 500 patients during 2027 Final report and scale-up proposal completed – Q4 2027
Responsible actors	Owner: Partner hospital cardiology department Sponsor: Partner hospitals Key contributors: DHI Cluster Bulgaria (coordination), cardiologists, nurses, rehabilitation specialists, IT support and data-protection teams

	Hospital commitment: at least 5% of designated clinical staff time for monitoring activities DHI Cluster: coordination contract for the initial 3-month pilot and support for the data-sharing agreement
Resources & budget / funding	People/time: Cardiology staff, dedicated nurse support, rehabilitation specialists, IT/EHR integration team and patient-support staff Budget categories: ✓ licence ✓ integration ✓ training ✓ support ✓ other: device procurement, maintenance/warranty and patient education materials Budget coverage: devices, onboarding, nurse support, platform access, IT infrastructure, education materials and maintenance Rough amount (EUR): 50,000 Funding: ☐ internal ☐ external/grant ✓ partner
KPIs + data source	KPI 1: Patient adherence – % of enrolled patients using the device on at least 70% of monitored days KPI 2: Reduction in rehospitalisations compared with baseline or matched cohort KPI 3: Number and response time of clinically relevant alerts KPI 4: Staff workload and protocol compliance KPI 5: Routine-care integration readiness Data sources: hospital EHRs, monitoring platform data, hospital records and programme reports
Risks + mitigations (max 3)	1) Low patient engagement → structured onboarding and support

	2) Technical issues → simplified workflows and support team 3) HCP workload → defined monitoring protocols and role distribution
Sustainability & after-project life	How will this remain active after the project? Program can be integrated into standard post-discharge care pathways (e.g., 30-day monitoring model) How will it support scale-up/transfer? Supports future reimbursement and adoption as hospital-based service

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