TransCare

New care pathways for supporting TRANSitional CARE from hospitals to home using AI and personalized digital assistance

D3.2 Care pathways re-design

Related Work Package:	WP3
Related Task(s):	T3.2 Study, analyse and design the care pathways for patient relocation from hospital to home
Related Milestone:	Mil2
Version:	V1.0
Status:	Final
Dissemination Level:	PU
Deliverable Type:	R
Due date of deliverable:	M15
Actual submission date:	05.08.2025
Deliverable lead partner:	FAR
Main author(s):	Camilla Gabrielsen (FAR)
Contributing authors:	Ovidiu Anchidin (HINS), Ancuta Nemes (HINS), Federico Barbarossa (IRCCS INRCA)
Peer-reviewers:	Ionut Anghel (TUC), Federico Barbarossa (IRCCS INRCA)
Keywords:	Transitional care, care pathways, redesign, implementation, coordination

Project partially funded by European Union and Unitatea Executiva pentru Finantarea Invatamantului Superior, a Cercetarii, Dezvoltarii si Inovarii (UEFISCDI) (RO), The Research Council of Norway (NO), and Italian Ministry of Health (IT).

Version history

Version	Authors	Date	Description
0.1	FAR (C. Gabrielsen)	25-06-2025	First technical draft
0.3	FAR (C. Gabrielsen) HINS (O. Anchidin, A. Nemes) INRCA (F. Barbarossa)	23-07-2025	Integrated draft version
0.4	FAR (C. Gabrielsen)	24-07-2025	Final draft version
0.5	FAR (C. Gabrielsen)	25-07-2025	Peer review version
0.91	TUC (I. Anghel) + INRCA (F. Barbarossa)	28-07-2025	TUC + INRCA peer-review
0.99	FAR (C. Gabrielsen)	05-08-2025	Quality check ready version
1.0	TUC (I. Anghel)	05-08-2025	Final version

Contents

List of acronyms

Acronym	Description
AI	Artificial Intellegence
CE	CE-certified medical devices- Conformité Européenne
CGA	Comprehensive geriatric assessment
EU	European Union
FAR	FARSUND KOMMUNE
GP	General Practitioner
HINS	HEART INSTITUTE “NICULAE STANCIOIU” CLUJ-NAPOCA
HL7 FHIR	Health Level Seven Fast Healthcare Interoperability Resources
INRCA	ISTITUTO NAZIONALE DI RICOVERO E CURA PER ANZIANI
IRCCS	Istituto di Ricovero e Cura a Carattere Scientifico
KRD	KARDE AS
KS	Kommunesektorens organisasjon (Norwegian Association of Local and Regional Authorities)
ML	Machine Learning
NVP	Nasjonalt velferdsteknologi Program (Norwegian welfare technology program)
RPM	Remote patient monitoring
SPOC	Single point of contact
THCS	Transforming Health and Care Systems
TLU	TELLU AS
TUC	TECHNICAL UNIVERSITY OF CLUJ-NAPOCA
WP	Work Package

Executive summary

Deliverable 3.2 of the TransCare project presents the redesign of transitional care pathways to improve the continuity and quality of care for older adults transitioning from hospital to home. Building on the findings of Deliverable 3.1, which mapped current practices and identified systemic and local challenges across three pilot sites—IRCCS INRCA (Italy), HINS (Romania), and FAR (Norway)—this report outlines the development of optimized, patient-centered, and digitally supported care models.

The redesigned pathways integrate innovative technologies developed in WP2, including remote patient monitoring (RPM), AI-based decision support, and digital communication platforms. These tools are tailored to the specific needs and digital maturity of each pilot site, ensuring relevance and feasibility. The redesign process employed a co-design methodology involving patients, caregivers, healthcare professionals, and technology partners to ensure that the new models are grounded in real-world contexts.

This deliverable marks the first step in an iterative process of care pathway transformation. The redesigned models will be tested in WP4, and the insights gained from real-world field trials will inform further refinements in future deliverable iteration. This approach ensures that the pathways evolve in response to practical experience, stakeholder feedback, and emerging needs.

1 Introduction

This document is the third deliverable in the work package entitled *"Transitional Care Knowledge Building and Care Pathways Design."* Building on the comprehensive mapping of current transitional care practices presented in Deliverable 3.1, this deliverable focuses on the redesign of care pathways to improve continuity of care from hospital to home.

The purpose of Deliverable 3.2 is to translate the insights and data gathered in the initial phase into actionable, patient-centered, and digitally supported care models. These redesigned pathways aim to address the challenges identified across the pilot sites—INRCA (Italy), HINS (Romania), and FAR (Norway)—and prepare for implementation and testing in the upcoming WP4 trials.

This redesign process also incorporates the innovative technologies developed in WP2, including remote patient monitoring, AI-based decision support, and digital communication platforms. By integrating these tools into the care pathways, the project seeks to enhance coordination, reduce readmissions, and improve patient outcomes during transitions from hospital to home.

This deliverable represents the first step in the redesign process. By testing the integration of these technologies into real-world care pathways, the project will begin addressing the broader systemic and operational challenges identified in Deliverable 3.1.

1.1 Task description

Task 3.2 that outputs the current deliverable has as main objective to transform the mapped "now situation" care pathways from Task 3.1 into optimized, patient-centered, and digitally supported models. This redesign is based on the challenges identified in the initial mapping, including communication breakdowns, unclear responsibilities, and limited use of technology.

To achieve this, the project team analyzed the care pathway matrices developed in Deliverable 3.1, project developed and integrated digital tools, such as remote patient monitoring and AI-based decision support and developed pilot-specific care pathways tailored to local contexts and needs.

This deliverable represents the first implementation of redesigned pathways using transitional care technologies. In the next deliverable iteration, the project will focus on addressing the deeper systemic and operational challenges through iterative testing and refinement.

1.2 Relations to other activities

This deliverable builds directly on the work conducted in Task 3.1, where the current state of transitional care was mapped through stakeholder interviews, care pathway matrices, and analysis of local healthcare contexts. The insights gathered in that task form the foundation for the redesign presented here. The redesigned pathways are also closely linked to Task 2.1, which focuses on adapting transitional care technologies—such as remote patient monitoring and AI-based decision support—to national and healthcare-specific contexts. These technologies have been integrated into the new care models and tailored to the roles, responsibilities, and digital maturity of each pilot site.

Deliverable 3.2 serves as a bridge to WP4, where the redesigned pathways will be tested through a longitudinal study. This study will involve patient recruitment, deployment of digital tools, and structured follow-up. Data collected during the pilot will be used to evaluate care quality, patient outcomes, and system efficiency. Additionally, the data will support the training of neural network

models to analyze daily life activity and vital signs, enabling proactive intervention and improved adherence to treatment plans.

The iterative testing in WP4 will also allow the project to revisit and address the deeper systemic challenges identified in Task 3.1, such as communication gaps, financing issues, and unclear transitions of responsibility between organizations. This continuous feedback loop ensures that the redesigned pathways are not only tested but also refined and adapted for long-term sustainability and scalability.

2 Overview of current pathway challenges

During the development of the care pathway matrices in Deliverable 3.1, the project team uncovered a range of weaknesses in current transitional care practices. These included numerous “pain points” that reflect site-specific challenges across the pilot locations. Unlike broader national issues, these local challenges are rooted in the day-to-day realities of care delivery and highlight gaps in coordination, communication, and follow-up.

Deliverable 3.1 provided a comprehensive mapping of transitional care practices across the three pilot sites—INRCA (Italy), HINS (Romania), and FAR (Norway). Through interviews, workshops, and the development of care pathway matrices, the project identified a range of systemic, organizational, and operational challenges that hinder effective transitions from hospital to home.

Across pilot sites, several local challenges in transitional care were identified during the mapping of current practices. These include poor communication between care levels, lack of coordination and continuity, outdated or incompatible digital systems, and limited access to follow-up services and assistive technologies. Resource constraints, infrastructure limitations, and insufficient involvement of patients and families further complicate the transition from hospital to home. These site-specific “pain points” highlight the need for targeted, context-sensitive solutions—forming the basis for the redesigned care pathways presented in this deliverable.

2.1 Challenges at INRCA

In addition to the challenges encountered at national level, the main problem in transitional care at INRCA level is that, unless the patient is discharged from the acute care unit and then admitted to the post-acute INRCA-intermediate care, the INRCA hospital has no direct connection with the general practitioner, territorial services and with the residences, where different teams operate, often lacking competence geriatric, using different methodologies and tools. This creates gaps in continuity of care that often cause patient care and management issues.

Hence, when the patient is (re)admitted, this results in a lack of information about the state of the health and treatment of the patient; when discharged, INRCA department produces a discharge letter that is shared with the general practitioner, but there is no guarantee that the therapies and recommendations are acted upon, once the patient has left the hospital. Creating continuity and strengthening communication between involved healthcare actors is indeed crucial to prevent (re)hospitalization of frail older adults.

2.2 Challenges at HINS

In addition to the challenges encountered at national level, at HINS we are faced with another issue: constantly having bed occupancy rate of above 90%. This shortage of beds is made worse by the absence of palliative centres where patients with terminal stages of various disease could be monitored. Due to the high number of patients, it is difficult to schedule the follow-up visits, which are very important, particularly for patients who underwent interventional procedures. The emergency department is also very crowded, most likely due to the long waiting lists at GP or a cardiologist from an ambulatory department.

2.3 Challenges at FAR

Significant communication gaps exist between hospitals and municipal health services. The recent switch to a new journal platform by hospitals has exacerbated these issues, causing delays in sharing critical patient information. This can lead to inadequate preparation for patient discharge and follow-up care. Additionally, the outdated and suboptimal municipal medical journal system is time-consuming and further complicates information sharing. Coordination between different healthcare providers is often fragmented, both between hospitals and municipalities and within interdisciplinary teams in the municipality. This fragmentation results in a lack of continuity in care, where patients might not receive the necessary services promptly after discharge from the hospital. The rural placement of the community presents significant resource constraints for both hospitals and municipal health services. These include staffing shortages and limited access to necessary medical equipment and welfare technology, such as safety alarms, cameras, and door alarms. These constraints hinder the ability to provide comprehensive care to frail elderly patients. The accumulation of patients in short-term wards, who cannot be accommodated at higher service level placements, leads to quick institutionalization and an inability to return home. This is compounded by insufficient access to assistive devices, which are often not available until after hospital discharge, placing a burden on home care services. Older houses in rural areas are often not built to accommodate the needs of elderly residents, with multiple levels and no elevators. This lack of suitable housing further complicates the transition from hospital to home care. Patients and their families often feel excluded from the decision-making process. They may not receive adequate or accurate information when the hospital and municipality are not coordinated about the needs for further care. This lack of involvement can lead to unnecessary readmissions and deteriorating health outcomes.

3 Overview of the current Care pathway matrix

The project end-users group developed this model to systematically examine current practices in transitional care, with a particular focus on communication quality and discharge planning. The model maps the patient journey from home to hospital and back again, emphasizing the critical touchpoints where coordination between hospitals and municipal services is essential. It highlights common issues such as delayed or missing notifications to municipalities, unclear or inconsistent documentation, and insufficient collaboration during discharge planning. By visualizing these challenges (see Figure 1), the model serves as a tool to identify gaps and improve the continuity and quality of care across care levels.

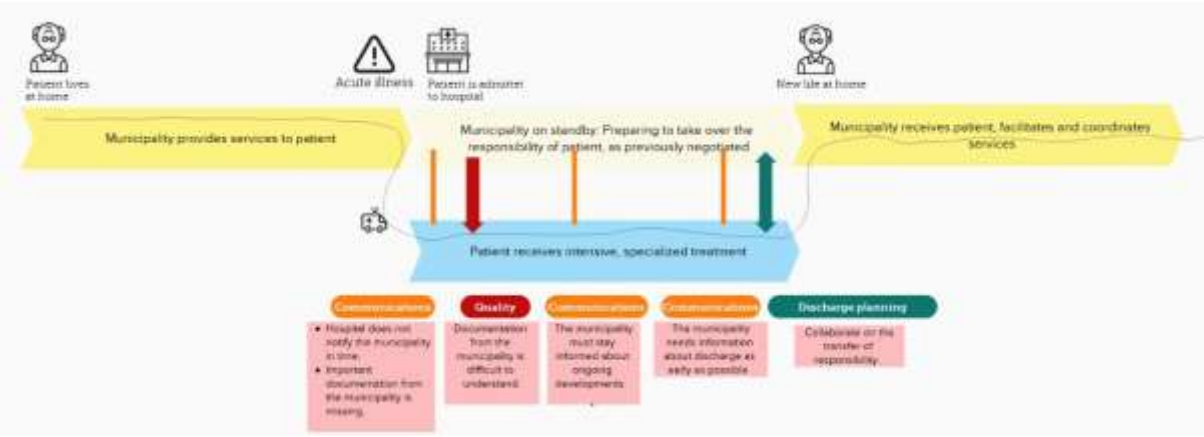

Figure 1: Transitional care pathway visualization.

3.1 Current pathway matrix INRCA

Figure 2 illustrates the current patient journey at INRCA across four main phases: (1) assessment/clarification, (2) hospital admission, (3) hospital stay, and (4) discharge.

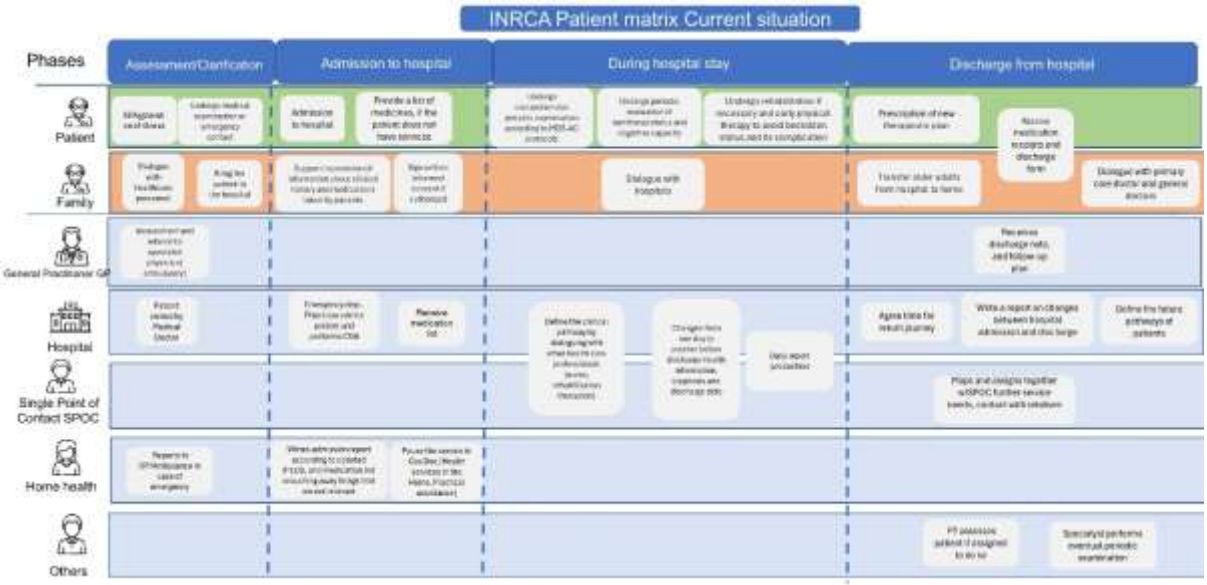

Figure 2: INRCA specific care pathway.

In the **assessment and clarification** phase, the patient experiences an illness or worsening of a condition and seeks medical help, often accompanied by family members. The family engages in dialogue with healthcare professionals and assists in bringing the patient to the hospital. General practitioners evaluate the patient, potentially referring them to specialist care, while home health services report emergencies. At this stage, the hospital is primarily involved through initial consultations.

During the **admission to hospital**, the patient is formally admitted, provides a medication list if available, and family members support the process by sharing clinical history and medication information. The GP's referral is acted upon, and the hospital's emergency department completes admission protocols and a comprehensive geriatric assessment (CGA). Home health services prepare by updating records and pausing home services.

In the **hospital stay phase**, the patient undergoes comprehensive geriatric examinations, periodic evaluations of nutritional and cognitive status, and rehabilitation if needed to prevent complications. The family maintains dialogue with hospital staff, while the hospital team defines the clinical pathway through collaboration among physicians, nurses, and rehabilitation professionals. Daily reports track progress, and changes in diagnosis or discharge dates are communicated.

During **discharge from hospital**, the hospital prescribes a new therapeutic plan and prepares the patient for return home. The patient receives medication receipts and a discharge form. The hospital agrees on the return journey timing, writes a report comparing admission and discharge status, and plans future care pathways. The SPOC and hospital coordinate to map out further services and maintain contact with relatives. Home health may resume services, perform assessments or periodic checks if assigned.

Throughout the journey, the family plays a key role by assisting with information sharing, coordinating with doctors, and supporting the transition from hospital to home, especially for non-autonomous patients, who are common in geriatric IRCCS INRCA hospital. The process ensures that the patient receives continuous, well-coordinated care across multiple actors, minimizing risks and fostering recovery.

3.2 Current pathway matrix HINS

Figure 3 presents the current patient journey at HINS, structured into five key phases: (1) assessment/clarification, (2) hospital admission, (3) hospital stay, (4) discharge from hospital, and (5) post-discharge.

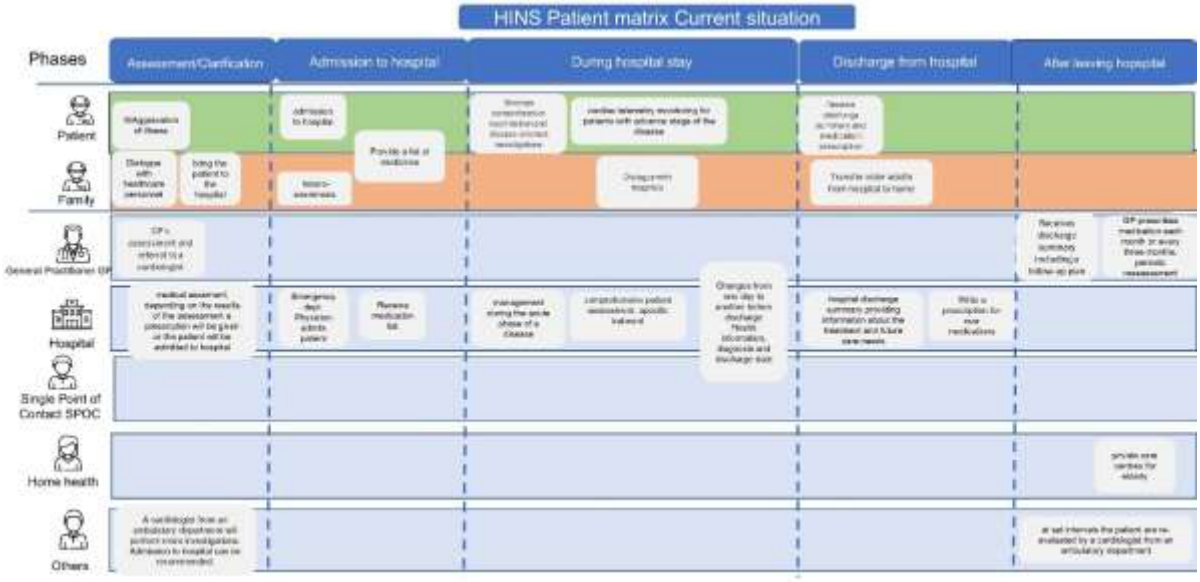

Figure 3: HINS specific care pathway.

In the **assessment/clarification phase**, patients who develop new symptoms or experience a deterioration of a pre-existing condition seek medical help. The patient first consults their general practitioner, who performs an initial evaluation and refers the patient to an outpatient cardiologist. The outpatient cardiologist conducts further investigations and, depending on the severity of the case, decides whether the patient should be hospitalized as an emergency or a scheduled admission. In cases where symptoms have a sudden onset, patients often go directly to the emergency department. The family is frequently involved at this stage, assisting with transportation to hospital. Upon hospital admission, a comprehensive reassessment is carried out and the family may provide relevant medical history, such as current treatment or comorbidities, particularly if the patient is unable to provide full medical information.

During **hospital stay**, further investigations are conducted to establish a final diagnosis. The patient receives specialized treatment, which may include invasive procedures. Throughout the hospital stay, the patient is monitored both clinically and para-clinically. The patient and their family are kept informed about the patient's health status and the anticipated discharge date.

At **discharge**, the patient receives a discharge summary containing treatment recommendations and a follow-up plan. This document should be submitted to the general practitioner. **After leaving the hospital** the patient is monitored by the general practitioner, who prescribes treatment according to the cardiologist's recommendations. Additionally, the patient is regularly assessed by an outpatient cardiologist at intervals established upon discharge.

3.3 Current pathway matrix FAR

Figure 4 presents the current patient journey at FAR structured into five key phases: (1) assessment/clarification, (2) hospital admission, (3) hospital stay, (4) discharge from hospital, and (5) post-discharge.

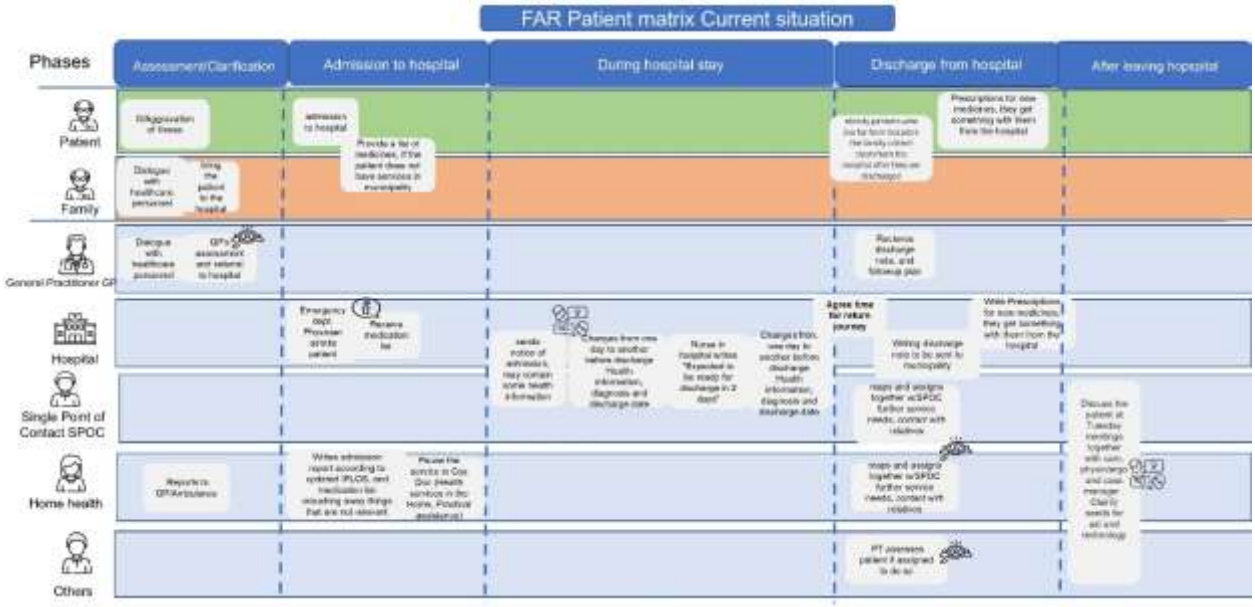

Figure 4: FAR specific care pathway.

In the **assessment phase**, the patient recognizes symptoms and seeks help, often with support from family. The general practitioner evaluates the patient and may refer them to the hospital, while the hospital and municipal services begin coordinating care. Upon **admission**, the patient enters the hospital system, and the family provides relevant medical information. The GP's referral is processed, and the Single Point of Contact (SPOC) coordinates logistics.

During the **hospital stay**, the patient receives treatment and monitoring, including diagnostic tests and therapeutic interventions. The hospital team—comprising physicians, nurses, and allied health professionals—develops a care plan. Communication with the family is maintained to inform them of the patient's condition and anticipated discharge date. Discharge planning begins early, involving municipal services to assess home readiness and support needs.

Discharge involves coordination between hospital staff, the SPOC, and municipal care providers. The hospital provides prescriptions, a discharge summary, and instructions for continued care. The SPOC arranges transportation and ensures that necessary assistive devices and home modifications are in place. Family members help prepare the home environment and may receive training or guidance on supporting the patient's recovery.

After discharge, the patient continues treatment at home, supported by family, the GP, and municipal services. Follow-up care is coordinated to ensure a smooth recovery and prevent readmission.

4 Technology integration from WP2

4.1 Overview of transitional care technologies

The TransCare project will integrate several digital technologies to support older adults during the transition from hospital to home. These technologies aim to enhance patient self-management, improve communication among care providers, and reduce the risk of re-hospitalization. The core components include:

- **Remote Patient Monitoring (RPM):** Patients will be equipped with CE-certified medical devices such as smart scales, blood pressure monitors, glucometers, pulse oximeters, and thermometers. These devices will automatically transmit health data via Bluetooth to a centralized platform.
- **Activity Tracking Devices:** A wearable smart watch, Fitbit will continuously monitor physical activity, sleep patterns, heart rate, and other wellness indicators. These devices will provide longitudinal data to support behavioral insights and trend analysis.
- **Digital Platform (TelluCare):** The TelluCare platform will serve as the central hub for data aggregation, visualization, and communication. It supports HL7 FHIR standards for interoperability and includes secure APIs for integration with hospital systems and municipal care services.
- **Mobile Application (Dialogg):** Patients will use the Dialogg app to report measurements, receive reminders, and access personalized health information. The app will also facilitate asynchronous communication with care teams.
- **Digital Assistant (Memas):** Patients will receive educational content and self-assessment tools to support disease literacy and engagement in their care.
- **AI-Based Analytics:** Machine learning algorithms will process collected data to detect anomalies, predict health deterioration, and support clinical decision-making. These models will operate on anonymized datasets and provide actionable insights to healthcare professionals.

4.2 Adaptation to Local contexts

Technology deployment in TransCare is carefully tailored to the specific needs, infrastructure, and digital maturity of each pilot site. At **INRCA (Italy)**, the focus is on older, frail patients with multimorbidity. The platform is configured to support caregivers and ensure accessibility for patients with mild cognitive impairment, using simplified user flows and localized educational content aligned with Italian national health standards. The correct utilization of the platform will be guaranteed by continuous training for end users. At **HINS (Romania)**, the emphasis is on cardiology patients at high risk of readmission. The remote patient monitoring (RPM) system is integrated into existing hospital workflows, with cardiologists leading recruitment, data interpretation, and patient engagement. At **FAR (Norway)**, the system is embedded within municipal home health services, extending to include modules for camera supervision and personal alarms to support patients in rural areas. Across all sites, deployments are adapted to local operational realities and comply with national regulations, language requirements, and data protection laws, including GDPR, ensuring secure and ethical handling of patient data.

4.3 Integration into redesigned pathways

The redesigned care pathways in TransCare embed digital technologies (more details in WP2 deliverables) at multiple stages of the patient journey to enable proactive, coordinated, and data-driven care. Technology is a core component of the new care model, supporting communication, monitoring, and decision-making from hospital to home.

Before discharge, patients are screened for eligibility and those selected for the intervention are introduced to TransCare technology including medical and non-medical monitoring equipment. They receive training on how to use the devices and the Dialogg mobile application, which serves as the interface for daily reporting and communication. Care plans are configured in the TelluCare platform, linking the patient's monitoring schedule with clinical oversight.

Once discharged, patients begin using the devices at home. These tools continuously collect and transmit health data, such as vital signs and activity levels, to the platform. The system visualizes trends and triggers alerts based on predefined thresholds. Healthcare professionals access dashboards to monitor patient status, adjust care plans, and can respond to alerts as needed.

AI - based post discharge analytics processes the collected monitored data (daily life activity and vital signs) to determine insights that can be used by medical professionals to address the problems that require proactive intervention. The current version of the platform integrates a deep-learning architecture for predicting heart rate during physical activities like running, walking, swimming or cycling, for a specific patient. The following monitored data is captured through the Tellu Dialogg application: (i) intraday Fitbit timeseries data, (ii) daily summary information and (iii) data from other sensors or devices integrated into the remote monitoring platform (e.g. smart blood pressure meter, etc.). The AI model outputs predictions of heart rate during specific activities allowing to compare them with the actual values.

By embedding technology into the redesigned pathways, TransCare ensures an improved transition from hospital to home, improve care coordination, and empowers patients and providers with real-time insights.

5 Methodology

5.1 Analytical framework

The methodology for redesigning transitional care pathways in TransCare is grounded in a structured, evidence-informed framework that combines qualitative insights with process mapping. The analytical approach includes:

- **Mapping current practices** through care pathway matrices that visualize the patient journey from hospital to home.
- **Identification of systemic and local challenges** using stakeholder interviews and interdisciplinary workshops.
- **Iterative co-design** to develop improved pathways that integrate digital tools and reflect real-world constraints and opportunities.

This framework ensures that the redesigned pathways are both context-sensitive and aligned with the technological capabilities developed in WP2.

5.2 Stakeholder involvement and Co-Design Approach

The redesign process is deeply participatory, involving a wide range of stakeholders across all pilot sites:

- **Patients and caregivers** were interviewed to understand their experiences, needs, and expectations during care transitions.
- **General practitioners, hospital clinicians, and municipal care providers** contributed insights into current workflows, pain points, and coordination challenges.
- **Multidisciplinary teams** participated in workshops to collaboratively map existing pathways and propose improvements.
- **Technology partners and researchers** supported the integration of digital solutions and ensured methodological rigor.

This co-design approach fosters ownership, relevance, and feasibility of the redesigned pathways, ensuring they are grounded in the realities of each healthcare setting.

5.3 Tools and techniques used

Several tools and techniques were employed to support the mapping, analysis, and redesign of care pathways:

- **Care Pathway Matrices**: Developed for each pilot site (INRCA, HINS, FAR) to visualize the sequence of care events, roles, and information flows. These matrices serve as diagnostic tools to identify inefficiencies and fragmentation. Originally developed by PA consulting for the Norwegian welfare technology program (NVP)[1]

[1] https://nordicwelfare.org/en/welfare-policy/welfaretech/

- **KS Modell for Pasientforløp (Norway)**[2]: A structured framework used to guide patient pathway planning, emphasizing assessment, data sharing, patient engagement, and follow-up.
- **Mural Tool (InnoMed)**[3]: A digital visualization platform used to collaboratively map patient journeys and identify "pain points" in the care process. This tool supports innovation and simplification of complex transitions.
- **Workshops and Interviews**: Conducted across all sites to gather qualitative data and validate findings. These sessions ensured that the redesign process was informed by those directly involved in care delivery and receipt.
- **Integration with WP2 Technologies**: The methodology is closely linked to the digital infrastructure developed in WP2, ensuring that redesigned pathways are compatible with remote monitoring, AI-based analytics, and digital communication tools.

This multi-method approach ensures that the redesigned pathways are not only clinically sound but also operationally viable and technologically integrated.

[2] https://www.ks.no/fagomrader/helse-og-omsorg/gode-pasientforlop/
[3] https://www.mural.co/

6 Description of the pilots and WP4 Testing

Deliverable 4.1 “Ethical pilots’ methodology and protocols’ definition” had the three pilot sites described in detail which we only briefly present in the next sub-sections.

6.1 INRCA (Italy)

In Italy the end-user partner will be recruited from the Geriatrics Operating Unit of IRCCS INRCA. The research team includes multidisciplinary professional personnel that will have the possibility to meet end-users and their families to present the project and the modalities of possible participation. It will be responsibility of the research group to give technical support with the use of the TransCare technological ecosystem and take track of clinical flux of data acquired from each participant to correctly archive it and analyse it afterwards. End-users involved in pilot trial will first be screened by the appropriate physician or nurse for evaluation of clinical and physical/cognitive inclusion criteria and eventual recruitment for the TransCare project. The typical inpatient that is hospitalized in the IRCCS INRCA geriatrics department is an older adult, frail and often multi-morbid, who access the hospital for a series of conditions that fall in the acute infectious processes (urinary, biliary tract infection etc.) or cardiac sphere (chronic heart failure).

6.2 HINS (Romania)

In Romania the patients will be recruited from the Cardiology Department of the Niculae Stancioiu Heart Institute. The research team includes cardiologists and technical staff. The cardiologist will screen hospitalized patients to evaluate the clinical, physical and cognitive inclusion criteria and eventual recruitment for the TransCare project. They will meet with the patient and their family to present the project and the modalities of possible participation. The technical specialists will provide support in utilizing the TransCare technological ecosystem, take track of clinical data flow from each participant, and ensure that the data is properly archived for subsequent analysis. The typical inpatient that is hospitalized in the HINS, Cardiology Department presents with heart failure caused by medical conditions such as: chronic coronary syndromes, acute coronary syndromes, or valvular heart disease. Another category of patients is represented by those with arrhythmias, conduction disturbance or peripheral vascular diseases.

6.3 FAR (Norway)

In Norway, patients will be recruited from the municipal care services in collaboration with the local hospital (Sørlandet sykehus avd. Flekkefjord). The municipal services office serves as the single point of contact for all patients and is notified by the hospital of all potential new patients shortly after admission. The project multidisciplinary team will work closely with the municipal services office to identify and recruit patients. When a potential patient is identified, the project multidisciplinary team will meet the patient and their family to present the project. Screening for cognitive and physical inclusion criteria will be a shared responsibility between the hospital and municipal multidisciplinary teams. Home health services will provide technical training on the equipment to the patient and will also be responsible for the daily follow-up. Home health will respond to measurements and forms that trigger alarms. The typical patient receiving care in the FAR municipality is an older, frail patient with chronic illness, infections, or those requiring postoperative rehabilitation.

7 Pilot-Specific Care Pathway Designs

The WP4 protocol is fully embedded into the redesigned care pathways, ensuring that technology-supported care is delivered in a structured and consistent way. Participants are randomized into intervention and control groups The pathway is specifically designed for patients included in the study. Those in the intervention group follow a digitally supported care pathway that includes onboarding, device training, and configuration of personalized care plans at discharge. Post-discharge, remote monitoring and structured follow-up at 30, 60, and 90 days enable proactive care, real-time coordination, and continuous refinement of the pathway.

7.1 Redesigned Care Pathway Matrix – INRCA

The redesigned matrix from Figure 5 illustrates the updated patient care pathway matrix at IRCCS INRCA, reflecting the integration of technological solutions and tailored improvements in transitional care. The main key phases are the same as the one reported in the above section, spanning among assessment/clarification, admission to hospital, hospital stay, discharge from hospital, and after leaving the hospital.

This matrix outlines again the roles and actions of all main stakeholders, including the patient, family, general practitioner, hospital, home health services, and others—highlighting how coordination and communication are strengthened across all stages.

Notably, during the hospital stay, there is an explicit step for recruitment and communication about possible candidates for TransCare intervention. The discharge phase includes structured use of clinical assessment scales and systematic data collection (anamnesis, functional and cognitive assessments). After discharge, a significant innovation is the introduction of remote monitoring, supported by the Dialog APP and Memas-client or TelluWeb platforms, enabling patients and families to actively participate in home self-monitoring. This is accompanied by instructions and training before leaving the hospital to ensure effective use of these tools.

Yellow boxes and arrows in the matrix indicate areas where project interventions have been implemented—such as improved data collection, recruitment procedures, and the embedding of telemonitoring technology. The matrix serves as a detailed blueprint for enhancing continuity of care through better communication flows, structured planning, and the integration of digital solutions, ultimately aiming to ensure a smoother, safer transition from hospital to home and ongoing follow-up during the first 90 days post-discharge.

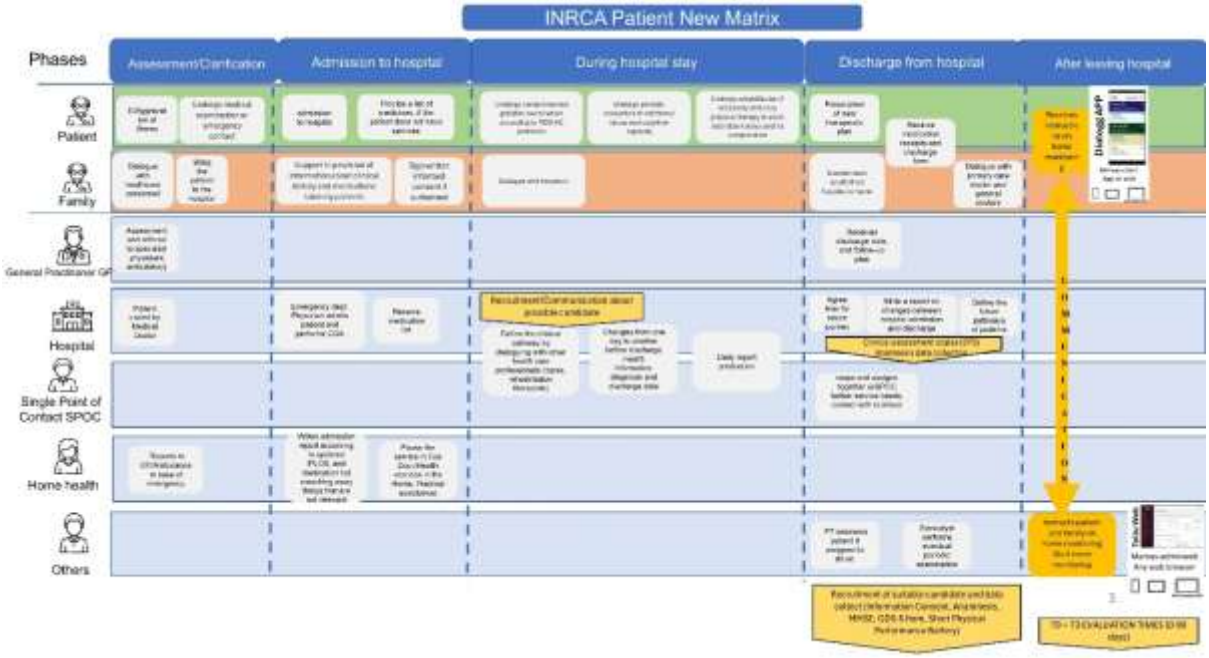

Figure 5: INRCA Patient New Matrix.

7.2 Redesigned Care Pathway Matrix – HINS

The redesigned matrix in Figure 6 presents the updated version of the previously reported patient care pathway highlighting the integration of digital health tools to support remote monitoring and improve care continuity. It maintains the same five key phases: assessment/clarification, hospital admission, hospital stay, discharge from hospital and post-discharge follow-up. The matrix defines the roles and responsibilities of all parties involved and emphasizes how communication, care planning and coordination are managed across these phases to ensure continuity and integration of care.

In the updated matrix, remote patient monitoring is integrated as part of the patient pathway with recruitment taking place during hospitalization. At the point of discharge, patients receive clear instructions on how to use digital platforms and monitoring devices to share health data collected at home with the care team.

Key changes introduced by the project are highlighted with yellow boxes and arrows reflecting improvements in communication and enhanced follow-up processes. This updated matrix represents a strategic blueprint for integrating technology and an information-sharing model into the transitional care pathway to ensure a safe and efficient transition from hospital to home.

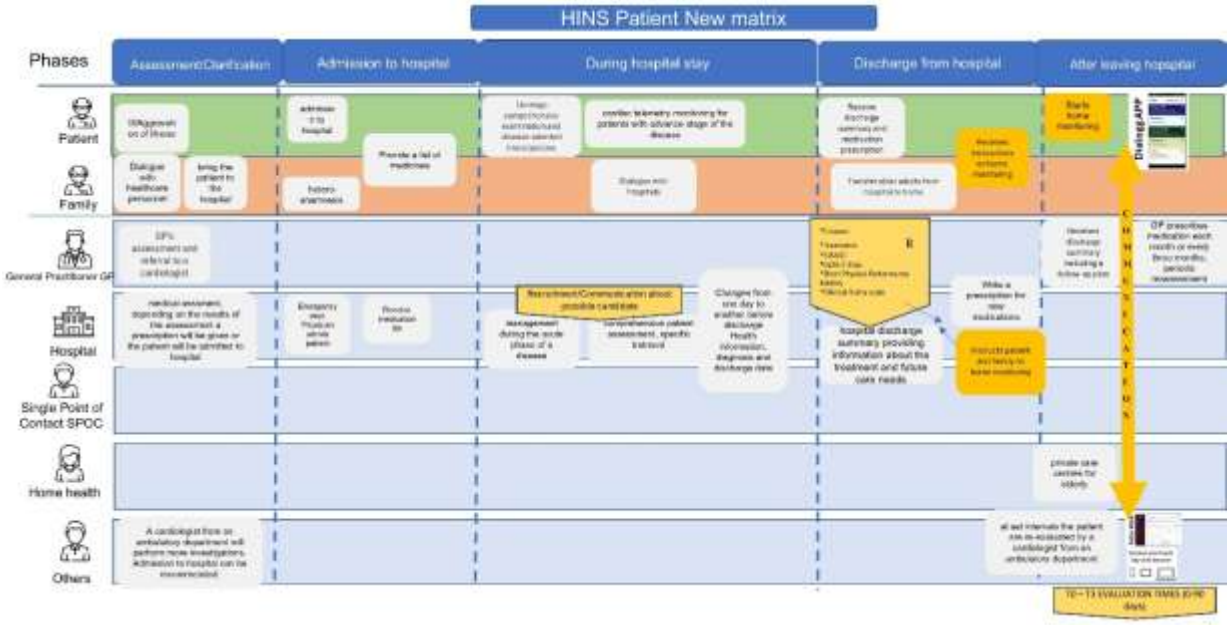

Figure 6: HINS Patient New Matrix.

7.3 Redesigned Care Pathway Matrix – FAR

The redesigned matrix from Figure 7 presents an updated and structured view of the patient journey through the healthcare system, emphasizing improved coordination and integration of services. It spans five key phases: assessment and clarification, hospital admission, hospital stay, discharge and arrival at home, and post-discharge follow-up.

Each phase outlines the roles and responsibilities of key stakeholders, including the patient, general practitioner, hospital, Single Point of Contact (SPOC), home health services, and others. The matrix highlights how communication, planning, and coordination are done across these phases. For example, the assessment phase includes a clearer agreement between the patient, SPOC and GP.

After discharge, the patient resumes care at home, supported by municipal health services, the GP, and family. Follow-up visits are scheduled, and home health services monitor the patient's condition. Remote monitoring technologies are introduced, including wearable devices and the Dialogg app, enabling real-time data sharing and alerts.

Notable changes are marked with orange triangles and explained in yellow boxes, indicating where project interventions have been made—such as enhanced communication, better-defined responsibilities, and more structured follow-up. This redesigned matrix serves as a blueprint for embedding technology and collaborative practices into the transitional care pathway, ensuring a smooth and safer transition from hospital to home.

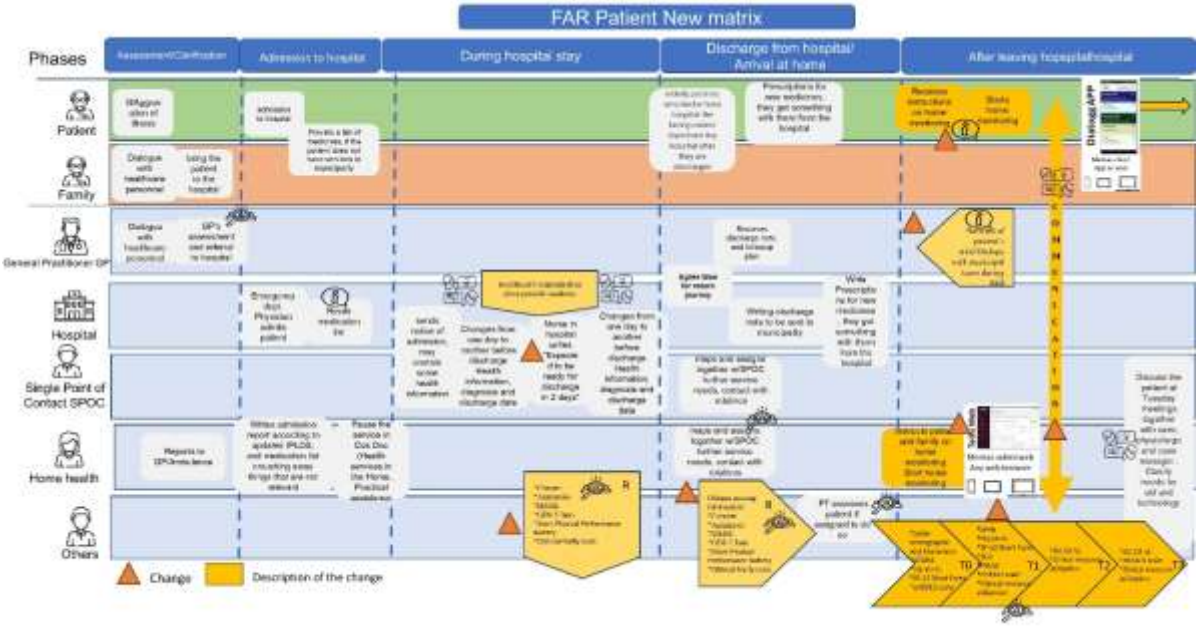

Figure 7: FAR Patient New Matrix.

8 Conclusions

Deliverable 3.2 provides the first iteration of redesigned transitional care pathways, developed in response to the challenges identified in Deliverable 3.1. These pathways incorporate digital tools and co-designed solutions to improve communication, coordination, and patient engagement during the transition from hospital to home.

Rather than representing a final solution, these redesigned pathways are a foundational step in a broader, iterative process. Their implementation in WP4 will allow the project team to observe how they function in real-world settings, gather feedback from stakeholders, and identify areas for improvement. The next deliverable iteration will build on these insights, proposing further adjustments to enhance the effectiveness, sustainability, and scalability of the care models.

By taking this stepwise approach, TransCare ensures that the redesigned pathways remain adaptable, context-sensitive, and aligned with the evolving needs of patients and healthcare systems.