HORIZON 2020
The Framework Programme for Health care provision and integrated care

CAREMATRIX

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Use Cases for the Open Market Consultation

This document complements the CareMatrix Scope Document "Report on insights, needs and key challenges" (D2.2)

USE CASES

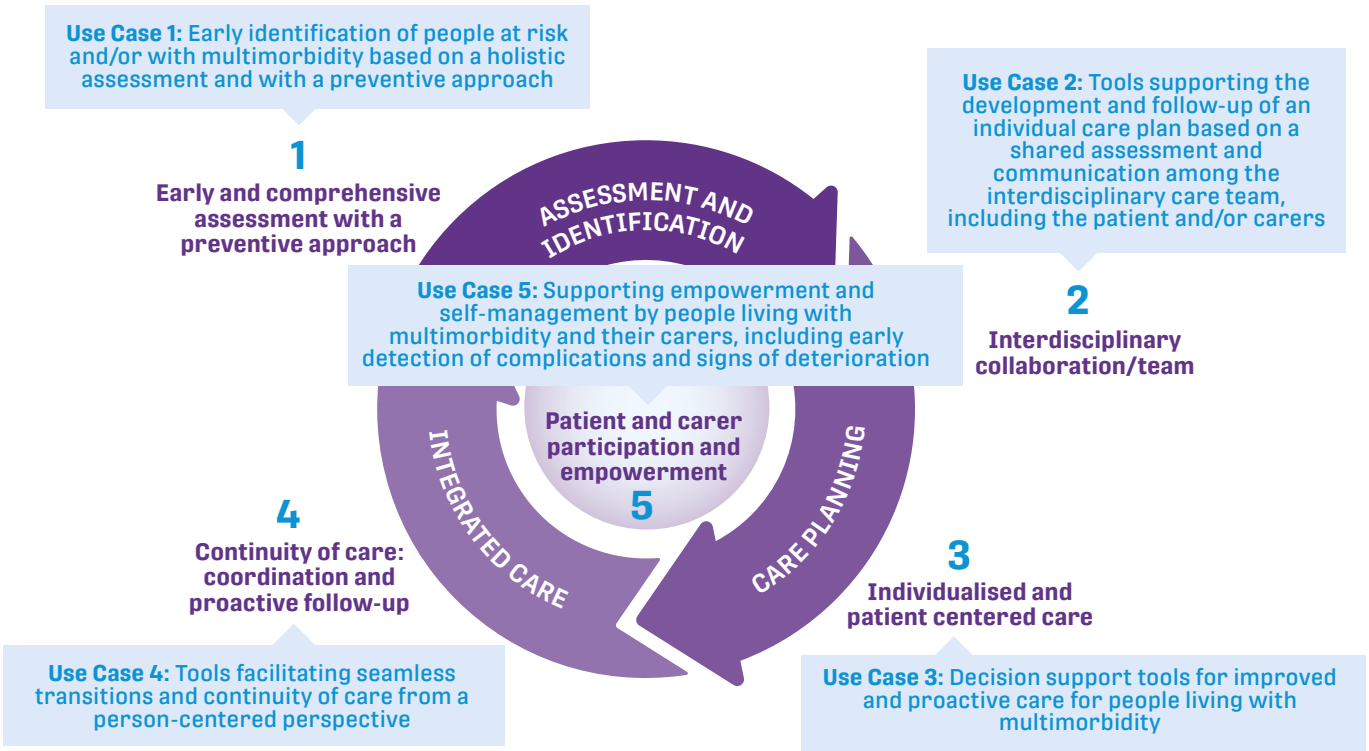
The following Use Cases are to be understood as generalised areas of interest which will be further defined during the OMC process. They are therefore to serve as inspiration and examples of how the building blocks described in the CareMatrix project's Scope Document: Report on insights, needs and key challenges could be addressed.

It is expected that through the dialogue with potential suppliers and other relevant stakeholders during the OMC process, the CareMatrix project's consortium will be able to further define, specify and/or change the initially suggested functionalities.

It is also noted that some of the referred functionalities might be difficult to solve or implement in all the project's regions/countries, due to the laws and regulations in place. The OMC process will also allow gathering further information and knowledge on these possible legal constraints.

USE CASE 1	**Early identification of people at risk and/or with multimorbidity based on a holistic assessment and with a preventive approach**
USE CASE 2	**Tools supporting the development and follow-up of an individual care plan based on a shared assessment and communication among the interdisciplinary care team, including the patient and/or carers**
USE CASE 3	**Decision support tools for improved and proactive care for people living with multimorbidity**
USE CASE 4	**Tools facilitating seamless transitions and continuity of care from a person-centered perspective**
USE CASE 5	**Supporting empowerment and self-management by people living with multimorbidity and their carers, including early detection of complications and signs of deterioration**

Figure. CareMatrix's Building Blocks and Use Cases



USE CASE 1	Early identification of people at risk and/or with multimorbidity based on a holistic assessment and with a preventive approach
Rationale	Early detection of the risk of multimorbidity and comprehensive assessment of the patient is essential for prevention (both preventing becoming a multi-morbid patient as well as preventing further health deterioration of people with multimorbidity (PMM)), proper management of the person's situation, improving quality of life and slowing down/preventing the evolution towards the most advanced stages of their health conditions. Access to the different information (such as clinical (including on mental health), on social situation, administrative) that defines the risk of multimorbidity is necessary. A timely identification of people at higher risk of becoming multimorbid and/or with multimorbidity requires an accurate and regularly updated classification/ segmentation based on agreed algorithms.
Stakeholders	General Practitioners Specialised Physicians Nurses (primary, secondary and tertiarycare level) Mental health care professionals Elderly care and social care workers Staff supporting healthcare management/quality of care, including through the identification of target groups for specific interventions/programmes. Other actors involved in primary and secondary prevention (such as from public health care and/or community care) People living with multimorbidity Carers (formal and informal)
Functionalities	▪ Use of comprehensive data (electronic health data, social data, ad hoc assessment questionnaires, data/information provided by the patient or carer). ▪ Interoperability to access comprehensive information on a person from different available care services (primary care, hospital care, mental health care, elderly, social and community care). ▪ Access by general practitioners and by staff in charge of patients' segmentation to information on risk factors in a regular and timely manner. ▪ Comprehensive assessment visualisation. ▪ Alert/advice functionalities. ▪ Case detection (of people at higher risk of becoming multmorbid, and/or of PMM and/or of PMM at higher risk of health deterioration). ▪ Storage of comprehensive data and assessment under the legal and regulatory requirements on security, privacy protection and ethics in place.
Integrated care aspect	▪ Comprehensive risk assessment for a better continuity of care ▪ Data and information sharing
Integrated care functionalities	▪ Data interoperability ▪ Data scoreboard

USE CASE 2	Tools supporting the development and follow-up of an individual care plan based on a shared assessment and communication among the interdisciplinary care team, including the patient and/or carers
Rationale	Traditionally different care providers and levels have worked in silos and without communicating with each other. Thus, patients with multimorbidity often find themselves following parallel care pathways and attending an unnecessary number of uncoordinated appointments with recommendations and treatments that might overlap or even clash with each other. Given the complexity of care for people with multimorbidity, people living with multimorbidity need an individual care plan shaped around their individual needs and decisions, overcoming the siloed care systems' focus on single health conditions and processes. This individual care plan should be based on a holistic assessment of the patient's overall health care needs and decisions. It should also take into consideration his/her social context and resources, capacity to self-care, as well as his/her values and preferences. In view of the self-care burden and the possible interactions/conflicts between treatments for different conditions converging in one person, a prioritisation of care objectives and treatments in the care plan, jointly between the care team and the person living with multimorbidity, might be needed. The individual care plan should be developed in collaboration, dialogue and agreement between the different health care professionals that converge in providing care to one patient, as well as with the involvement of the patient and/or informal carers. This individual care plan should be shared and accessible by the interdisciplinary team providing care to the patient, including the patient and/or his/her carers. Different care professionals and providers should be able to communicate with each other and collaborate on deploying the individual care plan, and on the proactive follow-up of the patient.
Stakeholders	General Practitioners Specialised Physicians Nurses (primary, secondary and tertiary care level) Mental health care professionals Elderly care and social care workers Professionals working in laboratory, radiology and other testing services Pharmacists (both working in a healthcare setting/organisation and in some countries/health systems also in the community) Other healthcare professionals involved in the provision of care for people living with multimorbidity (such as physiotherapists) Administrative staff People living with multimorbidity Carers (formal and informal)
Functionalities	• Tools for the creation and update of individual care plans for PMM. • Tools allowing for collaborative work between different healthcare professionals and healthcare providers. • Tools enabling the communication and comprehensive dialogue between healthcare professionals and the patient and/or informal carers on the individual care plan. • Tools enabling the communication among the whole interdisciplinary care team (which in some countries/health systems could include social care and/or community pharmacies). • Interoperability between data and information systems from different care providers (including also, if feasible, social care information systems). • Enabling shared information on the individual care plan, including the medication plan and self-care advice. • Enabling shared information on patient's appointments, consultations, tests, scales. • Enabling shared information and assessment of the patient (among areas which could be addressed: individual's health status, functional status, mental health status, pain level, values and preferences, social and family resources, capacity to self-care and/or digital skills). • Enabling shared information on support received by the patient from the social care system, when relevant.
Integrated care aspect	• Interdisciplinary Teamwork • Shared decision making on the individual care plan • Data sharing
Integrated care functionalities	• Shared care plan development • Interdisciplinary communication (involving also people living with multimorbidity) • Data interoperability

USE CASE 3	Decision support tools for improved and proactive care for people living with multimorbidity
Rationale	The complexity of care for people living with multimorbidity, including often polymedication, can benefit from decision support systems and tools that can inform decisions by the interdisciplinary care team, including alerts and reminders. Care for people with multimorbidity should be evidence-based and follow existing and up-to-date recommendations in Clinical Practice Guidelines. Care for People with multimorbidity should also follow agreed Protocols and Care Pathways in place in the clinical setting of the healthcare provider. Alerts, reminders and other information tools can facilitate an evidence-based and more proactive care for people living with multimorbidity by the healthcare team. In addition, comparative data on healthcare outcomes and resources can serve both care practitioners and managers to continuously evaluate and improve their practice as well as the organisation of care for people with multimorbidity.
Stakeholders	General Practitioners Specialised Physicians Nurses (primary, secondary and tertiary care level) Mental health care professionals Other healthcare professionals involved in the provision of care for people living with multimorbidity (such as physiotherapists) Pharmacists (both working in a healthcare setting/organisation and in some countries/ health systems also in the community) Healthcare Managers Healthcare Quality Improvement Teams
Functionalities	▪ Access to clinical information/data, including on mental health. ▪ Access to information registered by the patient on symptoms, evolution of parameters, measures and others. ▪ Access to the individual care plan. ▪ In health systems/countries with not available IT-based solution already in place or planned for: solution allowing for an automatic detection of possible interactions between medications and treatments for different conditions that converge in a patient. ▪ System allowing for alerts to care professionals on necessary interventions – including necessary reviews of the individual care plan - by the interdisciplinary care team, according to up-to-date evidence, protocols and care pathways in place. ▪ Tool allowing to extract personalised recommendations for end users, including training materials, to be provided by healthcare professionals. ▪ Platform allowing for a repository of resources that provide information and knowledge (including, if available, training resources) on up-to-date evidence and clinical practice guidelines on care for people with multimorbidity, as well as other practical tools for a better management of care for people with multimorbidity (such as individualised care plan templates, contact persons for consultation in other sectors/organisations, and/or information on available resources in the community, among others). ▪ Access to data on PROMs and PREMs. ▪ Tools allowing for the extraction of data by health care professionals for a defined population or group of patients under their care, as well as to elaborate scorecards for the self-assessment of their practice. ▪ Tools allowing for the extraction of data and scoreboards by healthcare managers for the evaluation of the performance regarding care for people with multimorbidity.
Integrated care aspect	▪ Integrated care by the interdisciplinary care team ▪ Continuous and proactive care ▪ Data and information sharing
Integrated care functionalities	▪ Data interoperability ▪ Data scoreboard

USE CASE 4	Tools facilitating seamless transitions and continuity of care from a person-centered perspective
Rationale	People living with multimorbidity usually require care from different professionals, specialties and providers, both from the health care sector (acute hospitals, primary care providers, mental health care providers, community pharmacies, medium/long-term care hospitals) and frequently also from the social care sector. Traditionally different care providers and settings have worked in silos and in an uncoordinated manner, leading to fragmented care. To improve the health outcomes and healthcare experience of People with Multimorbidity, continuity and coordination of care should be enhanced. Patients with multimorbidity face a particular risk of lacking continuity and coordination of care in transitions between care levels and settings. Among these transitions, hospital admission, discharge after a hospital stay, emergency visit and stay in a medium/long-term care institution could be mentioned. Particular attention should therefore be given to ensuring continuity of care and care coordination in these transitions, when patients frequently also need a review of their individual care plan, according to the possible changes in their health status, treatments or preferences. It can be noted that in some cases/health systems, patients with multimorbidity count with an identified healthcare coordinator within the interdisciplinary care team, such as case managers or reference doctors, which could be placed at primary and/or hospital care level (these organisational differences between the regions in the buyers' group should be considered in the design of any solution). It is important that the continuity of care is ensured beyond the boundaries of the healthcare settings, and also contemplates home care, community care, elderly and social care.
Stakeholders	General Practitioners Specialised Physicians Nurses (primary, secondary and tertiary care level) Mental health care professionals Emergency services' staff Home care and community care staff Elderly care workers Social care workers Administrative staff Pharmacists (both working in a healthcare setting/organisation and in some countries/ health systems also in the community) People living with multimorbidity Carers (formal and informal)
Functionalities	▪ Solution that supports the visualisation of the individual care plan by care professionals and by the patient. ▪ Access to interoperable or shared relevant health data and information on the patient registered by different care sectors, levels, settings and care professionals providing care to the patient. ▪ Access to data and information registered by the patient and/or carers (formal or informal) at home. ▪ Tools allowing for timely and automatic transfer of information and communication between care professionals, levels and settings, particularly at times of care transitions such as hospital admission, hospital discharge, emergency visit, stay in a medium/long-term care institution, move to an institution or activation of other relevant social support or community support resources. ▪ System allowing for alerts/reminders to relevant healthcare professionals for the review of the individual care plan, when relevant, in care transitions. ▪ System facilitating clear and understandable information to be provided to patients and carers at key transition points (areas that could be addressed: next steps in the care pathway, updates to the individual care plan). ▪ Solutions enabling an easier access by the PMM to the healthcare system, particularly at times of health crisis, acuteness or when having a doubt about his/her health by care professionals. ▪ If there is an identified care coordinator for the patient: contact information and communication channel with the patient's care coordinator.
Integrated care aspect	▪ Interdisciplinary Teamwork ▪ Healthcare system navigator ▪ Continuity and coordination of care ▪ Data sharing
Integrated care functionalities	▪ Shared care plan ▪ Data interoperability ▪ Interorganisational communication

USE CASE 5	Supporting empowerment and self-management by people living with multimorbidity and their carers, including early detection of complications and signs of deterioration
Rationale	Patients with multimorbidity can be empowered to take an active role in the management of their own health. An empowered patient is better able to early identify relevant symptoms, timely access the necessary healthcare resources, report relevant health-related information and appropriately manage the medication. In a person-centred care approach, it is important that the patient and his/her carers are involved and participate in the definition and development of the individual care plan, which should take into consideration the patient's values and preferences. The views, values and preferences of patients and carers should also be incorporated in the design, implementation and evaluation of multimorbidity care. Different tools contribute to patient empowerment and allow for greater patient and carer participation: targeted information to patient and informal carers, health education, carer support programmes, personal health folders, medication management tools, patient and carer forums, telemonitoring, home rehabilitation and other home care tools, among others. Digital divide is still an issue, especially among the elderly PMM. The typical PMM is requested to manage a multitude of support tools due to their care and treatment in multiple diagnosis tracks. These apps and other home-care devices are often not integrated. Telemonitoring and self-care tools are sometimes burdensome and time-consuming for PMM and carers.
Stakeholders	People living with multimorbidity Carers (formal and informal) General Practitioners Specialised Physicians Nurses (primary, secondary and tertiary care level) Mental health care professionals Other providers of primary and secondary prevention Pharmacists (both working in a healthcare setting/organisation and in some countries/ health systems also in the community
Functionalities	▪ In health systems/countries where the law allows for it but it is not in place: development of a solution where the patient and/or his/her authorised carers can consult health-related information from the health system (such as tests, diagnostics, therapeutic goals) as well as include information themselves (such as a personal diary). In health systems/regions where a solution (such as a Personal Electronic Health Folder) already exists, to include a gateway to the existing Personal Electronic Health Folder. ▪ Platform allowing for a repository of information materials and tools for patients and carers to support them in a better management of their conditions (for example on monitoring, interpretation of symptoms, adherence to treatments). ▪ Tool providing access to personalised recommendations for end users, including training materials. ▪ Platform allowing for the telemonitoring of a patient's clinical and emotional situation, as well as his/her adherence to treatment and possible complications. ▪ Interoperable platform of existing home-care devices. ▪ Tool for a better self-management of polypharmacy in patients who could benefit from it. ▪ Platform providing information on resources available in the community that can support patients and their informal carers in a better management of their conditions. ▪ Platform allowing for data and information on self-care activities as well as on the evolution of a patient's health conditions, parameters and symptoms to be registered by the patient and/or carers at home. ▪ Platform enabling meetings, forums and communication between patients and informal carers to share experiences of living with multimorbidity. ▪ Platform allowing for the collection of data on PROMs and PREMs.
Integrated care aspect	▪ Continuity of care with self-care at home ▪ Information sharing
Integrated care functionalities	▪ Remote telemonitoring ▪ Data interoperability