

Action Plan to create conditions for the adoption of integrated care in Olomouc Region - Transferability of “Hospital@Home” Good Practice in Puglia Region

Background: The objective of the Action Plan is to reflect on the possibility to transfer and adopt the learning about the Hospital@Home Good Practice in Puglia Region in Italy to local settings in Olomouc Region in the Czech Republic, including the feasibility of the transfer and recommendations on policy priority actions that would enable the creation of local conditions for the adoption of integrated care.

The Action Plan builds on the outcomes of the study visit organised in Puglia Region in 13-14 June 2018. The study visit was an opportunity to learn about the Good Practice and discuss its potential transferability by comparing and contrasting the requirements of the Good Practice with the maturity of local health and social care system for integrated care in Olomouc Region. As such, the Action Plan can inform the health and social care authorities about the future strategies and policies related to the Hospital@Home services in Olomouc Region. This process was facilitated by SCIROCCO self-assessment tool which provided the basis for the twinning and coaching activities.

The Action Plan are co-designed jointly with the transferring and receiving region as follows:

- **Section 1:** Needs of the adopting region - **Receiving region**
- **Section 2:** Description of the integrated care solution - **Transferring region**
- **Section 3:** Maturity requirements of the integrated care solution - **Transferring region**
- **Section 4:** Benefits and opportunities of integrated care solution - **Receiving region**
- **Section 5:** Conditions for the adoption of integrated care solution - **Receiving region**
- **Section 6:** Adaptation of local environment to enable the transferability of learning - **Receiving region**
- **Section 7:** Priority actions to enable conditions for the transferability of learning - **Receiving region**

1. *Needs of the receiving region - Olomouc Region, Czech Republic*

The healthcare system in Czech Republic is medically driven and focuses on institutional care. The system has been achieving some acceptable results but similarly as in other European countries, sustainability becomes a challenge and there is a need for a change and reform in the way the care is currently delivered. There are three key stakeholders in the healthcare system; Government, insurance companies and healthcare providers. However, the activities of these stakeholders are not coordinated and aligned to one particular strategy addressing the challenges of ageing population which often cause fragmentation. In addition, most of the proposed changes are politically sensitive and there is a lack of political willingness to address them. The healthcare system is also underfinanced which results in the lack of healthcare professionals. The role of ICT as an enabler of service redesign is not well recognised and digital healthcare services are not developed. However, the need for change becomes apparent in the form of poorer quality and accessibility of healthcare services.

By reviewing Hospital@Home Good Practice in Puglia, it became apparent that there is a number of Good Practice' features that are currently lacking in Olomouc's care model. Olomouc has also implemented Good Practice focusing on the management of heart diseases, however, with a much more limited scope and the features such as data sharing and coordination of care between hospitals, specialists and General Practitioners (GPs) are still missing. Hence the opportunity to learn about these features and their potential transferability to Olomouc region needs to be further explored.

2. *Integrated care solution to address the needs of the receiving region*

2.1 *Transferring region: Hospital@Home Good Practice*

Hospital@Home Good Practice is designed as a technological support for already structured activities in home care. The main objective is to reduce hospitalisation and re-hospitalisation and to improve the quality of care for patients at home. In addition, the objective is to:

- Reduce the number of patients with heart disease, diabetes and other chronic diseases in the process of instability
- Activate protected de-hospitalisation
- Optimise the therapy and diagnosis according to international guidelines.

The Good Practice has also an ambition to validate new telemedicine models applied for diagnostic and therapeutic pathways for the management of chronicity. The aim is to implement a new type of telemonitoring, based on continuous collaboration and patient monitoring by different professionals and different users.

Patients, opportunely selected, are telemonitored by their General Practitioners by using the innovative home and health monitoring technological solution (H&H Hospital@Home). This solution is able to detect the main clinical and instrumental parameters in addition to the therapeutic administration, based on oxygen and bronco-aspiration. It is allocated at

the patients' home and it is permanently interconnected with the General Practitioner and/or Specialist, by computer, telephone, tablet and other devices.

At the same time, there is a central monitoring room at the hospital in Ceglie Messapica (Brindisi) for all patients and all devices located at their home. All clinical parameters of patients are stored on a dedicated server, respecting the rules for the respect of privacy. The system allows the healthcare professionals (neurologists, pulmonologist, cardiologists, diabetologists, etc) to monitor and speak with patients remotely. The patients can also activate the visit of the healthcare professionals in their homes. In addition to real-time monitoring of physiological parameters, the healthcare professionals can also monitor the physical and technical characteristics of home device. As a result, it is possible to deliver therapy to the patient remotely. In particular, it is possible to deliver oxygen therapy and endocavitary aspiration. Healthcare professional determines the limit of the range of physiological parameter values and when the parameter is beyond the limit, the system draws the operator's attention through the alert.

2.2 *Transferring region: Current progress of the Hospital@Home Good Practice*

Challenges/problems that the Good practice is supposed to solve:

The five challenges that Hospital@Home Good Practice address are:

- Reduction of the number of patients with chronic diseases in the process of instability
- Reduction of hospitalisation and re-hospitalisation
- Activation of protected resignation
- Optimisation of the therapy and diagnosis according to international guidelines
- Promotion of the integrated management of hospital and community.

Key innovative elements of the Good Practice

Hospital@Home Good Practice is based on increased collaboration and involvement of General practitioners, specialists, nurses, patients and their caregivers.

The analysis of data related to the monitoring of about 100 patients allows better understanding of the effectiveness of the remote monitoring system and to what extent it improves the quality of care for patients. Patients are directly supervised by their General Practitioners in a much faster way which in turn increases the performance. We notice a very facilitated dialogue between General Practitioners and Specialists in delivering the service. Finally, the General Practitioners feel more supported by the Specialists when there is a need for a quick consultation. 60% of patients are over 65 years old. 30% of the patients suffer from heart diseases, 40% patients of COPD and the remaining patients are diagnosed with diabetes. In all of the patients who presented the values of blood oxygen saturation beyond the threshold, oxygen administration by concentrator has allowed to re-establish the normal clinical condition. In approximately 30% of patients is the drug therapy that improved due to telemonitoring.

Costs/investments needed for the deployment of the Good Practice:

The total investment necessary for the adoption of Hospital@Home Good Practice is between €100.00 - €499,999. The main source of funding came from the European Union, specifically European Regional Development Fund (ERDF).

Impact/outcomes observed:

There is an evidence that the Good Practice is economically viable, and it brings benefits to the target group. Further research and development are needed in order to achieve market impact and for the Good Practice to become part of the routine care.

The advantages of the use of technology in the field of telemedicine and especially with the use of H@H hospital equipment at home are:

- Reduction of hospital stays
- Greater assistance for the patients delivered directly to their homes
- Improvement of the psychological and physical condition and improvement of the therapeutic plan
- Easier monitoring of physiological parameters
- Easy to use and flexible management system.

The Good Practice has been transferred within the same region. A similar initiative is launched in another area of Italy, based on a slightly different organisation of the care model.

For a full description of the Good Practice please see <https://www.scirocco-project.eu/p6-puglia-italy-telehomecare-telemonitoring-teleconsultation-and-telecare-project-aimed-at-patients-with-heart-failure-chronic-obstructive-pulmonary-diseases-and-diabetes/>

Other useful links include:

<http://www.hospitalathome.org/>

<http://www.hospitalathome.it/index.php?lang=it>

3. Maturity Requirements of Hospital@Home Good Practice

3.1 **Transferring region:** Maturity requirements for the adoption and transferability of Hospital@Home Good Practice.



Figure 1: Maturity requirements of Hospital@Home Good Practice

Dimension	Score	Description	Justification and Reflection
Readiness to Change	4	Leadership, vision and plan clear to the general public; pressure for change	In order to succeed in the implementation of the Good practice it is important to have leadership. It also needs to be in line with the general vision of policy makers and professionals involved.
Structure & Governance	4	Roadmap for a change programme defined and accepted by stakeholders involved	It is necessary to have a clear roadmap for a change programme, including clear definition of regulation, supported by shared vision with stakeholder
eHealth Services	3	eHealth services to support integrated care are piloted but there is no yet region wide coverage.	Information sharing among professionals is needed as well as a central monitoring control room to coordinate the monitoring of patients.
Standardisation & Simplification	3	A recommended set of agreed technical standards at regional/national level; some shared procurements of new systems at regional/national level; some large-scale consolidations of ICT underway	The activation of the remote monitoring doesn't need specific ICT standards, but the solution needs to be interconnected with the Regional Platform. The adopted technology complies with the existing standards
Funding	4	Regional/national funding and/or reimbursement schemes for on-going operations is available	The implementation of the Good Practice requires an initial investment for the procurement of the bed side table. Nevertheless, the Good Practice can also be implemented by building an agreement with the IT provider and make the maintenance of the service and training of healthcare professionals part of the procurement.

Dimension	Score	Description	Justification and Reflection
Removal of inhibitors	2	Strategy for removing inhibitors agreed at a high level	The key to success is a minimum impact in the routine of healthcare professionals involved. Some in-depth information about the service shared among the stakeholders involved, including patients and care givers can help the removal of possible obstacles or diffidence.
Population Approach	3	Risk stratification used for specific groups i.e. those who are at risk of becoming frequent service users -	Population stratification is not needed. Shared healthcare pathways among the Care team is envisaged in order to guarantee the correct monitoring of the patients both clinically and psychologically.
Citizen Empowerment	3	Citizens are consulted on integrated care services and have access to health information and health data	Patients enrolled in this good practice are very frail. They need to be informed and trained for the use of the platform, but a big work needs to be done also on the side of care givers. Self-motivation of the patients is critical for the success.
Evaluation Methods	4	Most integrated care initiatives are subject to a systematic approach to evaluation; published results	It is important to have an evaluation habit. The possibility to have a systemic evaluation system helps. The data collection informs a continuous improvement of the ICT software/system used.
Breadth of Ambition	3	Integration between care levels (e.g., between primary and secondary care) is achieved	It is necessary to have integration between hospital care and primary care. The practice can easily take off wherever there is integration between care levels.
Innovation Management	3	Formalised innovation management process is planned and partially implemented	The implementation of the Good Practice is based on an important change of approach in managing frail chronic patients out of hospital. The principle of de-hospitalization must be embedded in the policy vision.
Capacity Building	3	Learning about integrated care and change management is in place but not widely implemented	It is necessary to train professional for the use of the devices and activate continuous learning and training processes.

4. *Benefits and opportunities of the adoption of Hospital@Home Good Practice in Olomouc Region*

The adoption of features of Hospital@Home Good Practice to Olomouc Region would contribute to the improvement of a number of outcomes:

- Decreased a need for hospital beds
- Improved care of chronically ill, including those discharged from hospital
- Reduced number of reduce the number of unstable patients with chronic diseases.

5. Conditions enabling the adoption of Hospital@Home Good Practice in Olomouc Region

5.1 Maturity of local health and social care system in Olomouc Region

Receiving region: Maturity of Olomouc Region’s health and social care system, highlighting the strengths and weaknesses of the local system is captured in the spider diagram below:



Figure 2: Maturity of Olomouc Region’s healthcare system

5.2 Conditions enabling the adoption of Hospital@Home Good Practice in Olomouc Region

Receiving region: Maturity of healthcare system in Olomouc and Puglia Region is captured in the spider diagram below:



Figure 3: Comparison of maturity requirements of Good Practice with maturity of Olomouc’s healthcare system

5.3 Feasibility of transferring of learning about Hospital@Home Good Practice to Olomouc's local context

Dimension	Score Puglia	Feature(s) of the Good Practice	Score Olomouc Region	Feature(s) of Olomouc healthcare system	Feasibility of the transfer and rationale
Readiness to Change	4	Leadership Good Practice implemented in line with general vision of policy-makers	1	There is a leadership in place, however, the concept of integrated care is not reflected in legislation, hence the vision of policy makers is lacking as well.	<u>Yes; the transferability of is feasible with lot of efforts.</u> This is a very complex feature to be introduced as there has been lack of political willingness to address the need for integrated care for long time and co-operation of various healthcare providers was activated mostly by medical community. However, awareness raising activities may active a change and the need for change has already been recognised by many experts and managers actively participating in health and social care. New project related to the development of integrated care strategy has been designed in mid-2018 by the Ministry of Health of the Czech Republic and is going to be implemented through Structural Reform Support Programme 2017-2020.
Structure & Governance	4	Roadmap for change programme Shared vision of stakeholders Organisational structure	0	Roadmap for change programme is missing hence it is difficult to create a shared vision and organisational structure for integrated care; the structure is fragmented. Some rare integrated care initiatives are active at the level of municipalities but there is no national/regional structure in place.	<u>Yes; the transferability is feasible with lot of efforts.</u> The first step to be introduced can be around the awareness raising about the need and benefits of integrated care, similarly as in case of Domain 1. Developing the roadmap for change is a part of the project mentioned above.
eHealth Services	3	Connection to national/regional platforms to allow information sharing Healthcare/IT providers are central	0	There is a national eHealth strategy approved (in November 2016) and gradually being implemented, however electronic health records are not available. As such,	<u>Yes; the transferability is feasible with lot of efforts.</u> There are plans on the national level to develop solutions and platforms to allow information sharing. However, this is a very challenging issue due to fragmentation of care providers who own the

Dimension	Score Puglia	Feature(s) of the Good Practice	Score Olomouc Region	Feature(s) of Olomouc healthcare system	Feasibility of the transfer and rationale
		part of the service redesign and additional work such as maintenance of the service or training is part of the procurement.		electronic sharing of health information across the care providers is a challenge and not really happening between health providers of diverse ownerships be they general practitioners, hospitals, clinics or other providers.	ICT systems, lack of transport and data storage infrastructure, lack of national standards for communication between healthcare providers.
Standardisation & Simplification	3	Connection to national/regional platforms to allow information sharing; no need for specific standards	1	There is some initial work around the standards; the need for standards is recognised.	<u>Yes; the transferability is feasible with lot of efforts.</u> National consensus would need to be reached and supported by legislation in place. Effective health data sharing between providers is recognised as a strong element supporting integration; national standards will then have to be agreed as mentioned in the Czech national eHealth Strategy.
Funding	4	Maintenance of the services is part of the procurement to ensure sustainability	1	Lack of funding is the biggest barrier to implement any changes in the care models; sustainability remains an issue. Regardless of the funding some innovation is still happening at small scale.	<u>Yes; the transferability is feasible with lot of efforts.</u> Considering Czech national healthcare system, the implementation of Good Practice requires multisource funding than can be composed of: centrally supported investment, funding by healthcare providers involved reimbursements and funding from regional and municipal budgets. All these sources will have to be newly defined and agreed.
Removal of inhibitors	2	Readiness of healthcare professionals - GPs led clinics, minimal changes to their routine practice and familiarisation of professionals with ICS solutions	1	Culture plays a major role here; it is very difficult to change the day-to-day routine of healthcare professionals. In addition, sharing of information among the professionals is rather challenging.	<u>Yes; the transferability is feasible with lot of efforts.</u> There are essentially no recognised barriers on professionals' side (managers, medical) to introduce innovations such as this Good Practice but the healthcare system is strongly based on <i>fee-for-service</i> scheme. As a result, this payment scheme does not well motivate to do some changes in organisation of care as it can be observed in other healthcare systems where these providers are

Dimension	Score Puglia	Feature(s) of the Good Practice	Score Olomouc Region	Feature(s) of Olomouc healthcare system	Feasibility of the transfer and rationale
					owned or managed by one authority with clear interest in effective use of common resources.
Population Approach	3	Existence of risk stratification tools/approaches	1	There are very limited risk stratification initiatives in place.	Yes; the transferability is feasible with some efforts. There is a considerable progress made with the development of Czech Central Health Statistic Institution (UZIS) with the objective to provide better, more accurate data to be used for the business intelligence. The data become available and they can be potentially well used also for risk stratification.
Citizen Empowerment	3	Citizens driven service, there is a demand for the service; tools/incentives to support citizen empowerment	0	Citizen empowerment is recognised in national strategy Health 2020 but its implementation remains a challenge. Healthcare by law still focuses on care and not on support of citizens in improving their health. There is a lack of capacity to support citizen empowerment initiatives.	Yes; the transferability is feasible with some efforts. There is some work under the preparation at the University Hospital Olomouc (UHO) around the development of ICT tools to support citizen empowerment. Some elements supporting patient empowerment, especially for better information about the health status and communication with care providers are subjects of several initiatives in wider Olomouc region.
Evaluation Methods	4	Systematic evaluation and data collection	0	There is no systematic evaluation in place; the health insurances pay usually for the cheapest or otherwise justified services. Olomouc already uses MAST (a model derived from HTA) for internal purposes of UHO - usually projects.	Yes; the transferability is feasible with some efforts. Some evaluation tools are already at the place; broad spectrum of data is collected and process by central institution UZIS as outlined above but the introduction of systematic evaluation would require further efforts at national level.
Breadth of Ambition	3	Integration across primary and hospital care	1	There is some level of interactions/coordination of care at the level of hospitals.	Yes; the transferability is feasible with lot of efforts. A new reform of primary care has been developed at the Ministry of Health and it is expected that it will include some important elements enabling

Dimension	Score Puglia	Feature(s) of the Good Practice	Score Olomouc Region	Feature(s) of Olomouc healthcare system	Feasibility of the transfer and rationale
					coordination of care, particularly of chronically ill patients.
Innovation Management	3	Change of approach embedded in policy	1	Municipality in Olomouc Region widely recognised the need and benefits of innovation. However, the implementation of concrete actions is very difficult.	<u>Yes; the transferability is feasible with lot of efforts.</u> As mentioned above, problems of the current healthcare system regarding the care of chronically ill are mapped by acting experts and politicians but many relevant amendments addressing the need for change and innovations in the current care models are politically sensitive and require broader consensus in the whole society.
Capacity Building	3	Training of healthcare professionals	1	Training of healthcare professionals is on-going; the training on integrated care is already included in the curricula at the Universities, particularly Palacky University Olomouc.	<u>Yes; the transferability is feasible with some efforts.</u> There is training of healthcare professionals in place, even though some Curricula should be upgrade. There is a lot of ad hoc education at the pilot phase which should be expanded to continuous learning and training.

5.4 Priority areas for the transferability of learning

Receiving region: List of the prioritised features Hospital@Home Good Practice to be considered for the transferability to the local settings in the Olomouc Region is outlined in the Table below:

List of the prioritised features of the Good Practice (maximum 3 features)
<p>Readiness to change</p> <ul style="list-style-type: none"> • Recognition of the need for change supported by shared vision of policy-makers • Legal conditions in place to facilitate a change <p>Funding</p> <ul style="list-style-type: none"> • Investment in the integrated care solutions and reimbursement model • Maintenance of the service is considered as part of the procurement to ensure the sustainability of the service

6. Adaptation of local environment to enable transferability of learning

Receiving region: List of the suggested changes to enable the creation of local conditions in the Olomouc Region for the transferability of learning about the features of Hospital@Home Good Practice is outlined in the Table below:

Features of Hospital@Home Good Practice	Adaptation of the features to Olomouc's local context
<p>Readiness to change</p> <ul style="list-style-type: none"> • Recognition of the need for change supported by shared vision of policy-makers • Legal conditions in place to facilitate a change 	<ul style="list-style-type: none"> • Introduce new legislation related to digital healthcare and integrated care; development of strategy of integrated care is currently on-going. • Organise information campaigns to raise awareness about the benefits of the Good Practice for the stakeholders involved, policy-makers and healthcare professionals in particular. • Encourage new way of working; a need for improved collaboration and partnerships-building among stakeholders involved.
<p>Funding</p> <ul style="list-style-type: none"> • Investment in the integrated care solutions and reimbursement model • Maintenance of the service is considered as part of the procurement to ensure the sustainability of the service 	<ul style="list-style-type: none"> • Promote multi-sourced and coordinated funding which would include investment in technologies, updates of the reimbursement schemes to reflect the costs that are relatively new in care process e.g. telecommunication charges and involvement of other parties such as municipalities. • This model of financing will require extensive negotiation with many stakeholders on several levels. • Demonstrate the economic benefits of the proposed solutions by piloting of the Good Practice in local conditions.

7. Priority actions to enable conditions for the transferability of learning

Receiving region: List of the proposed actions to enable conditions for the transferability of learning about the features of Hospital@Home Good Practice to the local context of Olomouc Region, improved including objectives, anticipated outcomes and policy implications, is provided in the Table below

Priority Action	Objective of the Action	Anticipated outcomes	Policy implications, including the responsible actor and anticipated duration.
Awareness raising campaigns	<ul style="list-style-type: none"> • Increase awareness about the need for integrated care and its benefits for stakeholders involved • Create conditions to support a change towards more connected and coordinated health and social care services • Influence the planning and design of integrated care concept 	<ul style="list-style-type: none"> • Recognised urgency of the need to change the way the healthcare is delivered • Improved awareness about the benefits of integrated care • Improved conditions to enable the adoption of integrated care solutions such as Hospital@Home Good Practice. 	There has been a new strategy developed for integrated care at national level in Czech Republic in August 2018. New models of care are introduced and piloted across the country. As such, there is an opportunity to feed the learning about Hospital@Home Good Practice rather than reinvent the wheel.
Create a shared vision for integrated care	<ul style="list-style-type: none"> • Raise awareness about a new way of working; partnership-building approach and its benefits • Use of European Regional Development Fund (ERDF) to develop and implement a complex strategy for integrated care and digital healthcare 	<ul style="list-style-type: none"> • Improved collaborations of all stakeholders involved in the planning, design and implementation of health and social care services. • Increased resources to finance the service redesign in the Olomouc region and wider Czech Republic 	

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