EVALUATION OF THE NATHCARE MODEL AND POLICY GUIDELINES

The value of health and well-being
An integrated approach to patient-centred care

REPORT 4
This report provides an assessment of NATHCARE Model implemented at each pilot site for the care of patients affected by long term care pathologies, such as chronic diseases.

More precisely, this report presents the qualitative and quantitative assessment of the NATHCARE Model, analysing its impact from the medical, organisational, technical and economic point of view.

The report aims at defining a clear view of the winning and problematic aspects of the NATHCARE Model as tested by the project pilot sites and at providing policy makers with a guideline to elaborate common policy guidelines to mitigate demographic change impact on healthcare systems.
INTRODUCTION TO THE NATHCARE EVALUATION AND ASSESSMENT

The NATHCARE project has been initiated under the framework of the ALPINE SPACE programme 2007-2013, in a scenario featuring social challenges such as demographic change and ageing of the population.

The NATHCARE ultimate purpose has been to demonstrate the technical and organisational feasibility of a system which, by capitalising on the experiences of the territories involved, could show possible changes in the chronic disease and long term care management.

Through a wide and orchestrated piloting action implemented in the 9 local health communities belonging to different alpine regions, the project now has the opportunity to highlight some conclusions resulting from the qualitative assessment of the on-field implementation. Furthermore this report addresses some policy guidelines that the project would like to leave as its own heritage for further reflections as to the benefits and usage of decision makers and healthcare stakeholders.
The methodological approach used to evaluate the NATHCARE Model as implemented at pilot sites is a combination of procedures, questionnaires and direct interviews to relevant stakeholders with the objectives of assessing the model as implemented and used in real environments during the project testing phase.

A set of indicators and assessment criteria were designed (NATHCARE Assessment of the healthcare models, first and second releases) and sent to every partner, in order to get results and to gather a significant collection of information. The main goal was to assess local medical practices and to measure the impact of the implementation of the NATHCARE models along 4 dimensions:

- **The medical dimension**, i.e., the benefits and drawbacks in terms of patient empowerment, quality of the follow-up, compliance, patient state of health, etc.
- **The organisational dimension**, i.e., the impact of the model on the organisation of the healthcare process and on the interaction among all stakeholders.
- **The economic dimension**, i.e., the impact of the implementation of the model in economic and budget terms.
- **The technical dimension**, i.e., the efficiency and performance of the underlying IT infrastructure and software.

These dimensions can be grouped into two categories: quantitative assessment characterised by the set of operational data (e.g. number of patients, number of shared digital documents…) and qualitative assessment which outlines the main lessons learnt from NATHCARE piloting activities.

By nature, chronic and long term care pilots require a long time before they can be evaluated. At the current stage of the pilots, it is definitely too early to make a comprehensive quantitative assessment of them. As a consequence, this report aims at providing the first trends that one can analyse from the first qualitative evaluation of the pilots and from the feedback received from the pilots’ stakeholders.

Operatively, this document has been based on the reports prepared by each pilot site that summarise the description of the piloting activities and the first results originated from the daily use of the NATHCARE system and the implementation in real scenarios of the underlying organisation. These reports assess the impacts of the introduction of the NATHCARE Model into the local chronic and long term care processes. All together, they enable a holistic view of the benefits and limitations of the NATHCARE Model.

One of the major goals of the NATHCARE project has been to bring innovation in a sector - the healthcare area for the management of the chronic disease and long term care - which is rapidly evolving due to the increasing complexity of the treatments, the technological developments and the high level of patients expectations including their enhanced awareness of health status and the growing pressure for an appropriate level of accountability.

Furthermore the healthcare sector is more and more confronted with the need of creating the constitutions for an effective cooperation with all the professionals and organisations involved in the care process and the necessity of ensuring efficiency and sustainability of the whole system.

Motivation and upgraded skills of the workforce, empowerment, literacy, advocacy and centrality of the patient and capacity building of policy and decision makers complete the background which should be taken into consideration in designing innovative models for an integrated care.

The NATHCARE global analysis of the first results gathered from the Model and system implementation at pilot sites aims at appreciating how much NATHCARE has achieved its major goal. The analysis is designed to evaluate the impact of the NATHCARE deployment within the different local healthcare communities in terms of healthcare organisation, costs, technical infrastructure and, more important, patients’ well-being.

### 3.1 Assessment of and feedback from NATHCARE pilot sites

#### 3.1.1 Lombardy

**3.1.1.1 Varese area**

**Varese Hospital and Local Health Care Unit (ASL) Varese.**

The medical condition addressed is the Chronic Obstructive Pulmonary Disease (COPD). The duration of the treatment is lifelong. Care plan starts at the beginning of treatment.

**Assessment**

- Higher patient compliance to visits.
- Reduction of improper inhalator usage: possible reduction of indirect costs in the medium/long term.
- Improvement in COPD knowledge and consciousness.
- Physicians wish to have ‘user-friendly’ teleconference tool.
- Need for development and implementation of chronic care models (best practices).
- Need for adequate infrastructures and resources to support future integrated approaches.

**Main results observed from the pilot:**

- Improvement in COPD knowledge and consciousness.
- Physicians wish to have ‘user-friendly’ teleconference tool.
- Need for development and implementation of chronic care models (best practices).
- Need for adequate infrastructures and resources to support future integrated approaches.
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3.1.2 Friuli-Venezia Giulia

Alto Friuli: Tolmezzo Hospital (ASS 3), clinic of Gastroenterology and digestive endoscopy.

The pilot focuses on inflammatory bowel disease (IBD) and in particular on the set of medical controls that patients suffering from the disease in a chronic condition (i.e. not in acute phases) should follow. Within the NATHCARE pilot platform, two care plans have been created, differing in the frequency of medical controls. The first is assigned when the patient has not been subject to acute IBD-related events for at least one month; the second after six months from the last acute episode, based on the results of medical checks. In case of acute phases or in general with the appearance of unexpected IBD-related symptoms.

FIRST PHASE: Assessment

Main results observed from the pilot:

- Satisfaction for the continuity of care assured by the implementation and use of the NATHCARE Model.
- Enhanced women’s feeling of being “looked after” throughout the pregnancy by a personal midwife.
- Satisfaction with the complete organisation of the woman’s pregnancy pathway from the beginning by her personal midwife.
- Better communication between the hospitals and the family planning centre.
- Access to data relating to patients provided by another clinical organisation (not possible before the implementation of the NATHCARE Model).
- Avoiding duplication of data.

SECOND PHASE: In the second phase, access to the platform has been extended to gynecologists, patients and other pilot sites (already involved in training). The care plans have been revised according to these new actions and to local needs.

Assessment

Main results observed from the pilot:

- Formal involvement of the Local Health Trust meant involving many Services, Departments and staff at different levels.
- NATHCARE’s primary goal in Tolmezzo pilot was to implement a community care network (helped by the platform) and from this point of view many important achievements have been reached.

General comments:

- Possible improvements:
  - Better patient-platform interaction through web applications and access to the platform granted to his/her family and informal care workers
  - Risk evaluation
  - Access to the platform provided for actors outside the APSS intranet
  - Adequate infrastructures and resources to support future integrated approaches.

3.1.3 Trentino

Community Valley Giudicarie: Tione di Trento Hospital, Family Planning Centre and Healthcare Trust of the Autonomous Province of Trento (APSS).

The Trento pilot is concerned with midwife-led physiological pregnancy assistance; the care plan duration is the duration of pregnancy + 40 days after birth and it starts at the first access to the outpatient clinic. Within the use of NATHCARE platform two care plans have been created: one in relation to pregnancy and one in relation to puerperium.

Note: the end of the first care plan corresponds to the start of the second one: as it is related to an unpredictable event (birth) it is impossible to define a unique timeframe. Indeed, events in the first one are related to the start of pregnancy and events in the second one are related to the birth.

FIRST PHASE: Assessment

Main results observed from the pilot:

- Satisfaction for the continuity of care assured by the implementation and use of the NATHCARE Model.
- Improved patients' feeling of being “looked after” throughout the pregnancy by a personal midwife.
- Satisfaction with the complete organisation of the woman’s pregnancy pathway from the beginning by her personal midwife.
- Better communication between the hospitals and the family planning centre.
- Access to data relating to patients provided by another clinical organisation (not possible before the implementation of the NATHCARE Model).
- Avoiding duplication of data.

SECOND PHASE: In the second phase, access to the platform has been extended to gynecologists, patients and other pilot sites (already involved in training). The care plans have been revised according to these new actions and to local needs.

Assessment

Main results observed from the pilot:

- Better appreciation related to regular check-ups.
- Higher patient compliance to visits and exams.
- Lower sense of abandonment at the end of the treatment.
- Stronger relationship with their GPs.
- Clearer role of the various stakeholders in the follow-up.
- Better access to information related to episodes.
- Better recognition of the role of the various stakeholders.
- Features to be developed:
  - Patients’ access to their health record and care plan (review and upload prescriptions)
  - More “user-friendly”.

3.1.4 Rhône-Alpes

Rhône-Alpes oncology network hospitals: Hôpital Privé Drôme Ardèche (Valence), Centre Marie Curie (Valence), General practitioners.

Rhône-Alpes is concerned with the follow-up of Breast Cancer: the care plan duration is five years.

In Rhône-Alpes, hospital specialists faced an increasing number of breast cancer follow-up patients. Due to the time and work needs, an important objective is to shift the corresponding periodic controls to the primary care GPs.

Assessment

Main results observed from the pilot:

- Lower apprehension related to regular check-ups.
- Higher patient compliance to visits and exams.
- Lower sense of abandonment at the end of the treatment.
- Stronger relationship with their GPs.
- Clearer role of the various stakeholders in the follow-up.
- Better access to information related to episodes.
- Better recognition of the role of the various stakeholders.
- Features to be developed:
  - Patients’ access to their health record and care plan (review and upload prescriptions)
  - More “user-friendly”.

3.1.5 Bavaria

Garmisch-Partenkirchen Medical Centre.

3.1.5.1 Case use 1: Post-operative treatment after knee replacement

The postoperative treatment after knee replacement depends on the progress of the patient. Treatment passes through three treatment steps:

- First rehabilitation procedures (physiotherapy, instructions, further information), at the hospital (8-14 days). In particular, a one-hour video informs the patient about consequences and further details regarding rehabilitation.
- Rehabilitation at civil (3-4 weeks). There, the patient receives a complex set of therapeutic procedures to strengthen the muscles and enhance the mobility of the joint.

3.1.5.2 Use case 2: Treatment of Extremely Obese Patients

The treatment of obese patients (BMI > 40 or BMI > 35 with co-morbidities) is a lifelong treatment followed by a group of HPs. The general objective is to manage the patient's nutrition habits, though in extreme cases the stomach may be downsized by an operation.

Typically, a patient is sent to the hospital (which is specialised through an “obesity clinic”) by a GP, perhaps following unsuccessful treatment. Here, the patient receives a coordinated treatment: nutrition counselling, psychiatric and psychosomatic consultation, exercise therapy (weekly) and group support led by a psychologist (weekly). Afterwards, a medical consultation is planned every 3 months, while each 6 months the overall progress is evaluated.

Expansion of the NATHCARE Model: Implementing the NATHCARE Model:

- Improves the information exchange between healthcare providers.
- Increases the patient compliance and satisfaction due to information transmitted by HPs and to social interactions with HPs.
- Allows health care professionals to get more information about the health status of the patient. Consequently, they can provide a more specific and patient oriented care, they can better evaluate the progress made by the patient, and they can decide about additional medical and therapeutic procedures the patient would need.
- Provides access to all relevant exam reports via a secure procedure, which implies that no redundant exams need to be performed (time & money savings, patient well-being).
- Improves the quality of care by collecting and taking into account feedback from all stakeholders.
- Increases patient satisfaction and sense of security after discharge, through the possibility given to health professionals to interact with the patient, based on the information the patient has uploaded.

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Main results observed from the pilot:

- Patient empowerment by providing access to medical documentation (doctor’s letters, exam reports, etc.) and to the activities scheduled by the care team.
- More efficient and collaborative medical care provision: by a common document repository and by a common follow-up documentation.
- Simplified and real-time information transmission between patient and HPs: by documenting relevant data in the system, HPs can get an up to date health status of their patients at any time by accessing relevant parameters provided by the latter. Consequently, HPs can give appropriate advice to their patients based on all available information.
- Better coordination between the actors: by a defined activity sequence (e.g. lab examination before visit to specialist).
- Cost reduction: by performing some exams only once, during regular GP visits (e.g. some lab parameters that are required later during the next checkup in the hospital, can be done by the GP, if he is aware of that).
- Time saved by the patient: by placing several specialist checkups on the same day and by using the health status reports of the patient to decide whether a consultation by a HP is advisable or not.
- Time saved by the HPs for preparing the interdisciplinary conferences: by accessing the information reported by the patient (weight, participation confirmations).

General comments:

- NATHCARE allows placing the patient at the center of the system and considering a network of stakeholders.
- The NATHCARE Model is sufficiently flexible to be adapted to different contexts.

3.1.6 Carinthia

Villach Hospital.

The Carinthia pilot implemented 2 use cases: diabetes and COPD. Diabetes and COPD are both chronic diseases with a need of care until the end of life of any patient. The coordination of care has to be very effective and high quality in both cases. The main goal of both therapies is to achieve the best possible health status and wellbeing of the patients with a continuous therapy and medication. During the whole care continuous check-ups are recommended. For both illnesses the medical care consists of regular check-ups at HCPs and GP’s of intra- and extramural area, specialised examinations like lab exams as well as self-evaluation of patients.

The care is provided by the intramural HCP as well as the extramural HCP’s in cooperation with the General Practitioners. The care coordination as well as the diagnosis, the therapy and the medication are provided by the specialist doctors of the Villach Regional Hospital.

Assessment

Main results observed from the pilot:

- NATHCARE allows a better exchange of information and better communication among care plan stakeholders.
- NATHCARE motivates the patient to go to check-ups.
- A higher patient’s compliance to visits and exams was observed.
- There is a lack of interconnection between the internal patient health records and NATHCARE; all inputs and data have to be entered in the two systems, which means a double work.
- NATHCARE should be adapted in order to take into account the need for sending reminders via SMS for diabetes patient.
- The layout of the system must be more user friendly and should be less technical.
- More conviviality required “Only the options/buttons which concern the doctor should be visible”.
- IT would be necessary to adapt the system with a SMS-contacting-function.
- The system needs to be overhauled and adapted to the needs of the patients and doctors before being used in real working life.

3.1.7 Slovenia

Golnik Clinic.

Golnik pilot is concerned with Chronic Obstructive Pulmonary Disease (COPD); the duration of the care plan is lifelong.

A General Practitioner enrols a patient and assigns a care plan to him/her according to disease severity (mild form of the disease [GOLD I and II] and severe form of the disease [GOLD III and IV]), based on the results of spirometry. Patients with mild form of the disease have regular check-ups every 12 months with their GP. Patients with severe form of the disease have regular check-ups every 6 months with their pneumologist in a hospital. Two unpredicted activities have been added to a care plan to take into account the unpredicted exacerbations of patient’s health, and are, again, divided into inpatient and outpatient treatment of exacerbations.

Assessment

Main results observed from the pilot:

- NATHCARE allows efficient digital document sharing. NATHCARE conforms to standards of safe communication and strong authentication, thus complying with legal regulations on patient data handling.
- NATHCARE enables paperless communication between stakeholders involved in the patient care.
- NATHCARE Model and platform are very easy to use.
- NATHCARE Model and platform are very easy to customise (reusability, versatility).
- An interconnection of the IT of the different stakeholders should be provided in order to avoid duplication of information.

3.1.8 Geneva Canton

The Geneva pilot implemented 2 use cases: Knee Replacement Rehabilitation and Cardiac Rehabilitation.

The first use case involves orthopaedic surgeons from the Geneva University Hospital, an orthopaedic rehabilitation doctor, physiotherapists at the Laims-de-Cressy rehabilitation centre, and patients. The duration of this care plan is as long as the rehabilitation. The Cardiac rehabilitation care plan involves Cardiologists at the Geneva University Hospitals, as well as Cardiologists, Physiotherapists, and Nutritionists at the Beau-Séjour rehabilitation hospital, and patients. The care plan integrates already existing regional sources of knowledge and patient education. As above, the duration of this care plan is as long as the rehabilitation.

The care plans have been designed and validated by all HPs involved in patients’ follow-up, and several patients have been recruited, who are currently (June 2015) actively using the NATHCARE tool during their rehabilitation. At the same time a Developer at HUG is working on improving the user interface of the local instance of NATHCARE, based on feedback from patients and HCPs using NATHCARE.

Assessment

Main results observed from the pilot:

- The NATHCARE tool was perceived positively by the Health Care Professionals especially as it allows the integration of existing knowledge and educational tools into the care plans.
- User interface should be improved for better user friendliness and to be less time-consuming for the HCPs.
- NATHCARE was perceived positively by the patients, and they especially appreciated having all their documents and notes in one place: the patients in Geneva used NATHCARE on tablets and where they previously had many different papers they now were able to add everything in NATHCARE, e.g. they could enter the parameters that they needed to collect every day after training sessions directly into NATHCARE in the gym on the tablet; they were able to add notes to the patient education session, etc.
- Training courses are required in order to have a successful implementation.
- Providing support to all involved actors before and during the implementation of system is mandatory.

3.2 NATHCARE Model: medical, organisational, economic and technical impacts

This section gives a synthetic and qualitative overview of the most important points revealed by the individual pilots’ assessment, in terms of benefits and limitations, along the 4 assessment dimensions.

3.2.1 Medical

Main benefits of the NATHCARE Model:

- NATHCARE makes the patient’s consent agreement explicit.
- The NATHCARE care plan template model can adapt to a large variety of diseases.
- Patient empowerment: patients can benefit from information services to get access to their data and upload follow-up parameters through various modalities (email, web forms...). Patients feel more “looked after” when cared for using the NATHCARE approach.
- Efficient clinical document sharing facilities.
- Real time information sharing among the members of the care team.
- Improved communication among and coordination of health care stakeholders (HPs, Patient...).
- Enhanced quality and continuity of care through care planning, avoidance of unnecessary visits and exams, and clarification of the role of the care team members.
- Possibility to manage multiple patients’ diseases and medical conditions making use of a unique care plan.
Limitations and possible improvements:

- To be effective, all stakeholders must participate in the implementation and execution of the care plan.
- The system must be better integrated into the existing workflow and into the hospital/practice system.

### 3.2.2 Organisational

Main benefits of the NATHCARE Model:

- Introducing a system like NATHCARE strongly modifies the traditional healthcare model and habits. It is therefore mandatory that healthcare political authorities support this change.
- Implementing the pilot requires a solid coordination mechanism between all involved stakeholders.
- NATHCARE permits better coordination of the HPs (Specialists, GPs, Paramedics, Social workers...) involved in the care plan definition and execution.
- The implementation of the Model at pilot sites requires that all stakeholders conform to national and international best practices. If correctly implemented, it might facilitate a continuous improvement of the LTC practice.
- NATHCARE enables standardised care plans to be built, re-used and shared.
- Up to date repository of HP-related data (directory of medical actors) and care facilities.
- Follow-up system integrates tools to import/export medical patient data: electronic files, X-ray images, discharge letters, functional diagnostics reports, structured reports (CDA2), biometric data...
- NATHCARE has the capability to associate multiple care plans to a medical case and to manage multiple care teams.

Limitations and possible improvements:

- Delays in the model implementation and real usage on larger scale scenarios due to necessary policy-makers’ acceptance and reception.
- Different cultures lead to different working approaches or medical/administrative procedures. Cross-border and cross territory patient follow-up raises multiple issues:
  - Coherence to legal/administrative regulations
  - Document language
  - Intercultural differences.
- Slight reticence of the health care providers to accept the introduction of innovative care models, such as NATHCARE, that entail relevant changes in the consolidated organisational structure and that require important modifications in the professionals' healthcare culture.

### 3.2.3 Economic

The period of implementation and usage at pilot sites of the NATHCARE has been definitely too short to make an in-depth economic assessment and identify effective economic outcomes. However, it is possible to make a first coarse-grained evaluation of the economic impact of the Model.

Main benefits of the NATHCARE Model:

- Medical patient history is available on-line via a secure access to a data repository; therefore redundant visits and exams are avoided which saves time and, in the long term, might reduce healthcare cost.
- Cost savings resulting from using ICT data instead of paper based documentation (no printouts, no letters sent by the postal service).
- Better patient compliance to treatments might lead to a better efficiency of the health care system.
- Networking, with the support of technology, health centers geographically dispersed might allow cost saving.
- Expected cost of the NATHCARE system installation/deployment/maintenance is quite small, particularly if compared with the possible benefits that might arise from use of the system.

Limitations and possible improvements:

- The cost and the complexity of the integration of the system with existing patient data repositories can limit the exploitation of the system.
- The HPs involvement should be supported by a solid and shared economic model.

### 3.2.4 Technical

Main benefits of the NATHCARE Model and related technological system:

- NATHCARE is a web based solution, so the front-end can be accessed on multiple devices.
- The NATHCARE software is very versatile and can deal with any LTC pathology.
- The NATHCARE platform is secure at multiple levels: Portal, Modules and Databases are protected by encryption technology.

Limitations and possible improvements:

- User interfaces should be improved (e.g. use of more colours and icons to distinguish functions).
- The NATHCARE platform should integrate an online support.
- Better integration with existing workflow and hospital/practice system must be realised.

*Performance tests (Load, Stress, Soak...) must be carried out.*

### 3.3 Conclusions on the global analysis

The NATHCARE Model has proven to be an effective and ready-to-use solution for long term pathology follow-ups. Improvements result from the better coordination of HPs and more globally all stakeholders involved in the patient care, the better identification of responsibilities, the real time sharing of follow-up data, and the online access to patient records.

Patient empowerment has been achieved by the capability offered to the patients to upload follow-up parameters, access their medical data, contact health professionals (which enhances the patient reassurance). NATHCARE offers a cost effective solution to LTC follow-up by avoiding redundant or unnecessary visits and exams and promoting electronic data exchange. However to be more effective, NATHCARE must be made fully interoperable with existing patients data repositories.

NATHCARE supports a major compliance of care activities to international best practices and standards, facilitating cross border healthcare cooperation. However, implementing a system like NATHCARE impacts habits and challenges classical healthcare models. A strong support from healthcare authorities is therefore mandatory.

To conclude, this first assessment has enabled us to identify key features of the NATHCARE Model and to capitalise on lessons learnt from the various pilot sites.

The effectiveness and the versatility of the system have been demonstrated. Further assessment at a longer distance from the start of the piloting actions is strongly recommended to complement the results of this evaluation.
The NATHCARE policy guidelines spring from the overall project activities and represent one of the main project outcomes to be offered to the attention of decision makers and stakeholders operating in the healthcare sector, and particularly in the chronic disease and long-term care treatments area.

These orientations rely on the specific experience of the project and benefit from the lessons learnt during the piloting phase operationalised in various territories featuring different healthcare systems with roles and competencies which may differ significantly from one context to another. They have been elaborated with the contribution of the project partners, the organisations which piloted the service in a real scenario, the healthcare governance bodies which were involved in the operation phases and the experts who have cooperated with the project team.

Health systems in developed countries are under similar financial pressures, not just from current global economic conditions and rising healthcare costs, but also from changing populations that are posing new challenges in meeting increased and more personalised demands for care. To improve quality and access while maintaining control on costs, these health systems are taking action to integrate healthcare.

Integrated healthcare delivery links multiple levels of care management, coordinates services and encourages professional collaboration across a range of care delivery.

The models of integrated healthcare vary in emphasis and focus. Whatever the approach, the objective is to ensure that the most appropriate and effective care is provided where and when it is needed, offering the potential of achieving better health outcomes while controlling costs.

This approach calls for a strategic change management in care entailing a significant carefully orchestrated organisational transformation directly in line with mission and vision and that can affect culture, management, clinical systems behaviour and patient-care providers interactions, well beyond the changes required in technology alone.

What has been clearly shown by the NATHCARE experience is that without the input and guidance of the decision-making level, the envisaged change in healthcare delivery fails to realise the promised returns due to the lack of fundamental factors such as absence of coherent strategies, uneven financial incentives and an absence of suitable interoperability standards and procedures.

Due to diversity of contexts a one-size-fits-all model or process for successful healthcare integration does not exist, but there are a number of common principles which may be used by decision-makers to assist and drive the integration efforts.

Those principles, clearly detected also within the NATHCARE, can be summarised as follows:

- Healthcare integration should be guided by the principle of overcoming traditional “episodic” based healthcare approaches, and should be aimed at the continuity of care.
- Strategies devoted to the healthcare integration should place the patient at the centre of their effort in order to improve clinical outcomes and patient satisfaction.
- Roles and responsibilities of all healthcare team members taking care of a patient should be clearly identified as well as communication flows to meet performance and efficiency in the patient treatment.
- It is fundamental for subsequent improvements to constantly evaluate the performance of the new proposed healthcare model. This implies a clear definition of suitable indicators to be used to measure outcomes at different levels.
- A robust and coherent technology infrastructure already in place will ease the transition towards an integrated approach to healthcare.
- Once the vision underlying the change is defined, cultural barriers to change should be overcome by guiding and promoting the process towards the expected goals. The cultural change guided at high level is essential for a successful integration effort.
- Persuading physicians to work together within a team is not always an easy process. Often they are afraid of losing their leadership role or even of losing economically.

This can easily take the form of resistance to change. Economic incentives and identification of ways to improve the quality of working life are critical factors to success.

- Definition of a remuneration system for new services that might by supplied to patients within an integrated healthcare model (i.e. eHealth services) is essential for a successful re-organisation of health systems.

These principles define key areas for restructuring and allow organisational flexibility and adaptation to local context.
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