

All reproduction is prohibited
but direct link to the document is accepted:

<https://www.irdes.fr/english/reports/574-international-comparison-specialist-care-organisation-italy-multidisciplinary-networks-in-tuscany.pdf>

International Comparison of Specialist Care Organization: Innovations in Five Countries

England • Germany • **Italy** • Netherlands • United States

Italy: Multidisciplinary Networks in Tuscany

Lucie Michel, Zeynep Or (IRDES)

1-16

Études de cas

LES RAPPORTS DE L'IRDES

n° 574 • July 2020



INSTITUT DE RECHERCHE ET DOCUMENTATION EN ÉCONOMIE DE LA SANTÉ
117bis, rue Manin 75019 Paris • Tél. : 01 53 93 43 06 •
www.irdes.fr • E-mail : publications@irdes.fr

- **Directeur de publication/Director of publication** Denis Raynaud
- **Éditrice/Editor** Anne Evans • **Éditrice adjointe/Associate editor** Anna Marek
- **Maquettiste/Lay-out artist** Franck-Séverin Clérembault
- **Assistant à la mise en page/Lay-out assistant** Damien Le Torrec
- **Diffusion/Diffusion** Suzanne Chriqui
- **Dépôt légal** : juillet 2020 • **ISBN** : 978-2-87812-525-2

International Comparison of Specialist Care Organization: Innovations in Five Countries

England • Germany • **Italy** • Netherlands • United States

Italy: Multidisciplinary Networks in Tuscany

Lucie Michel, Zeynep Or (IRDES)

Case studies

Acknowledgements _____

We would like to express our gratitude to our Italian colleagues, Sabina Nuti, Milena Vainieri, Chiara Seghieri and Francesca Ferrè from the Scuola Superiore Sant'Anna who helped us with the case studies and accompanied us on site visits. We would also like to thank the healthcare professionals who gave up their time to be interviewed for this research, and for the warm welcome they gave us when we visited their facilities. Our thanks also to the colleagues and experts at the French High Council for the Future of Health Insurance (*Haut Conseil pour l'avenir de l'assurance maladie*, HCAAM), especially Anne-Marie Brocas, Renaud Legal, Nathalie Fourcade, and Jean-François Thébaut, who provided useful comments at different stages of this work. Finally, we would like to thank our editorial team at the Institute for Research and Information in Health Economics (IRDES), Anne Evans and Anna Marek who worked on numerous versions of this report with great dedication and patience.

Sommaire

Acknowledgements	2
About this study	5
The Italian health system in a nutshell.....	7
1. DIABETIC FOOT NETWORKS IN TUSCANY	9
Background	9
Overview of the developments of diabetic foot care in Italy	10
A graduated care pathway	10
Diabetic foot networks in Arezzo and Pistoia - Tuscany	11
A patient-centered network	12
<i>An integrated multidisciplinary team within the hospital...</i>	12
<i>... which relies on a nurse coordinator...</i>	12
<i>... working with primary health care professionals within the Local Health Authority.....</i>	13
<i>... and share a common vision of care</i>	13
The role of evaluation and benchmarking.....	14
2. HEART FAILURE NETWORKS IN TUSCANY	16
Background	16
Overview of the development of heart failure networks	16
A well-defined care pathway	17
A hospital specialist network that integrates primary care providers... ..	17
<i>... relies on district nurses working at patient's home...</i>	18
<i>... and on multidisciplinary community health centers</i>	18
Continuous evaluation of outcomes	20
3. KEY LESSONS	21
Challenges	21
Enablers	21
4. REFERENCES	23

International Comparison of Specialist Care Organization: Innovations in Five Countries

Italy : Multidisciplinary Networks in Tuscany

IRDES - July 2020

About this study

Under pressure of increasing demand for healthcare from an ageing population with multiple chronic conditions, France, as other countries, seeks to advance care coordination across primary, hospital and long-term care sectors. Specialists play an essential role in treating patients with chronic conditions, but little attention is given to their organization out of hospitals, and their role in enhancing care coordination and patient-centered care provision. France Stratégie (French High Council for the Future of Health Insurance, *Haut Conseil pour l'avenir de l'assurance maladie*, HCAAM) asked the Institute for Research and Information in Health Economics (IRDES) to provide an international perspective on the subject.

In collaboration with researchers and experts in five countries (England, Germany, Italy, Netherlands, and United States), we identified examples of specialist care delivery models. In order to understand the actual organization of care around specific health conditions, we carried out case studies in these countries between June 2018 and March 2019. These case studies do not aim to provide an overall description of ambulatory care provision in each country. Rather they look at the organization around specific patient care pathways by describing the coordination of roles and tasks between specialists and other professionals involved, its innovative features and the underlying financial models.

The two case studies in this report describe the organization and functioning of multidisciplinary networks managing diabetic foot and heart failure patients. They are based on visits organized in the Tuscany region in June 2018 with the collaboration of the Management and Health Laboratory (MeS) of the Scuola Superiore Sant'Anna in Pisa. During the visits, we interviewed all major actors involved, in particular the specialists who are central in these networks, healthcare professionals in hospitals and in primary care settings, as well as local authorities.

International Comparison of Specialist Care Organization: Innovations in Five Countries

Italy : Multidisciplinary Networks in Tuscany

IRDES - July 2020

THE ITALIAN HEALTH SYSTEM *in a nutshell*

The Italian health-care system is a regionally-structured National Health Service (Servizio Sanitario Nazionale, SSN) financed by taxation. It provides universal coverage, mainly free of charge at the point of care, and is organized around three levels: national, regional and local. The national government is responsible for national health planning, setting general objectives, defining core health benefits and financial resources in order to ensure a uniform level of services. Regions enjoy significant autonomy in planning, organizing and managing their health care systems through Local Health Authorities (LHA) in order to meet the needs of their populations. LHAs are managed by a general director appointed by the region, and deliver primary care, hospital care, outpatient specialist care, public health care, and social care through their own facilities, and by commissioning services to public hospitals and private providers. There are significant disparities across regions in terms of hospital capacity, availability of advanced medical equipment, private facilities, and community care services which are also reflected in health outcomes (Ferré et al., 2014; LoScalzo et al., 2016; OECD, 2017).

Primary care is provided by self-employed physicians (general practitioners and pediatricians) under contract, who are paid a capitation fee based on the number of people on their list. LHAs can pay additional allowances for the delivery of planned care to specific patients (e.g. home care for chronically ill patients), for reaching performance targets and for delivering additional treatments. Capitation is adjusted for age and accounts for approximately 70 percent of overall payment (Donatini, 2019). The variable portion comprises fee-for-service payments for specific treatments, including home care, preventive activities, etc. Public hospitals are either managed by the LHA or operate as semi-independent public enterprises. Flexible DRG-based prospective payments account for most hospital revenue, but are generally not applied to hospitals run directly by LHAs which are paid by global budgets. Hospital-based physicians are salaried employees. Outpatient specialist care is generally provided by LHAs or by accredited hospitals (publicly or private) under contract with them. Outpatient specialists are paid by a standard national hourly fee (~32 euros).

The two case studies presented here are based in Tuscany. Tuscany is a region in central Italy with approximately 3.7 million inhabitants (Nutti et al., 2016). Until 2016, twelve LHAs were responsible for organizing and providing healthcare services for an average of approximately 300,000 inhabitants. They were convened into three authorities in 2016. Hospital care (95% public) is mainly provided by general hospitals led by LHAs (paid by global budgets), four teaching hospitals (independent health facilities without a specific geographic catchment area) and a regional referral center for cardiovascular care.

International Comparison of Specialist Care Organization: Innovations in Five Countries

Italy : Multidisciplinary Networks in Tuscany

IRDES - July 2020

1. DIABETIC FOOT NETWORKS IN TUSCANY

Background

- ▶ Diabetes is a major chronic disease in all industrialized countries and its prevalence has been rising rapidly. In 2016 more than 3 million people in Italy were reported to suffer from diabetes, or 5.3% of the total population (16.5% of those aged 65 and over).
- ▶ Uncontrolled diabetes can cause very serious health problems including diabetic foot, which is linked to neuropathy and peripheral vascular disease.
- ▶ Diabetic foot is a highly complex problem that can lead to amputation and significant handicap if not treated rapidly. It requires multidisciplinary care involving primary care providers for prevention and screening, as well as diabetologists, orthopedic and vascular surgeons for the treatment and recovery of the wound.
- ▶ In Italy, diabetic care is provided by general practitioners for simple to mildly complex patients and by diabetologists in diabetic clinics for complex to very complicated cases. There are more than 700 diabetic clinics in Italy, 100 of which are dedicated to diabetic foot care.
- ▶ There is a strong practice of distal vascularization (percutaneous transluminal angioplasty), a procedure used to open up the blocked blood vessel using a small catheter. If provided at the right moment, it can avoid amputation of the foot, but requires good coordination between the diabetologist and the vascular surgeon.
- ▶ Italian centers have one of the best outcomes in the Organisation for Economic Co-operation and Development (OECD) area, in terms of healing and the lowest rate of major amputations (Carinci et al., 2016)

In the past 10 years, several regional initiatives have been launched in order to improve diabetics care and to reduce high regional variations in amputation rates. Standardized major amputation rates still vary between a minimum of 2 every 100,000 inhabitants (Arezzo, Siena and Ogliastra) and a maximum of 16 every 100,000 inhabitants (Pescara) across Italian provinces (National Health Outcomes Program, 2017 data)¹.

This case study presents the initiatives in Tuscany and explains how local healthcare professionals have implemented a graduated care pathway for diabetic foot through multidisciplinary networks.

¹ <http://performance.sssup.it/netval/start.php>

Overview of the developments of diabetic foot care in Italy

1980-2000: For a long time, Italian surgeons and orthopedics would not take responsibility for diabetic foot as it was considered a very complex, chronic and multidimensional problem leading to complications (cardiac, renal, vascular, etc.), poor clinical outcomes and long hospitalizations. Distal revascularization (an intervention for opening blocked blood vessels) was perceived as unfeasible and ineffective. Therefore, major amputation had been frequently considered as the elective treatment. At the beginning of the 2000s, many diabetologists became aware of the importance of treating diabetic foot lesions with a non-surgical management of diabetic neuropathic foot ulcer instead of a surgical approach.

2000-2009: The implementation of an International Consensus of Diabetic Foot created an opportunity for revising guidelines in Italy. Diabetologists and general practitioners started cooperating in order to reduce amputation rates. They shared a very simple practice: asking patient to take off their socks and shoes during each consultation.

2010-2015: Implementation of the National Prevention Plan (2010-2012) which foresees the realization of regional projects based on lines of intervention agreed between the Regions and the National Center for Prevention and Control of Diseases (CCM), including diabetes. Through the CCM and in collaboration with the Istituto Superiore di Sanità (ISS), the Ministry developed the IGEA project² with the aim of encouraging initiatives and interventions favoring an integrated disease management model which reinforces the assistance to people with diabetes and the prevention of complications. The IGEA project supports the development of multidisciplinary teams, composed of general practitioners (GPs) and territorial nurses, able to identify, enroll and proactively monitor patients with type II diabetes mellitus, heart failure, chronic obstructive bronchial pneumopathy and stroke, according to a defined model of chronic care. In diabetes this requires a stepwise and global approach of diabetic foot care at the Health Care District level. GPs are expected to actively screen and monitor diabetic patients for diabetic foot. Globally, the CCM requires better cooperation between health professionals to provide patients with integrated assistance.

Since 2015: The Patient-Centered approach. Based on the chronic care model but with a paradigm change shifting attention from providers working in silos (each having their own responsibilities without looking at what is done in other settings) to patient-centered care pathways requiring stronger communication and collaboration between healthcare providers.

A graduated care pathway

The chronic care model introduced in 2010 stated that GPs are responsible for treating Type 1 diabetes and for following up moderate to complicated type 2 patients, while diabetologists should treat mostly complicated cases and diabetic foot wounds. This model of care requires that every patient have a foot examination every year, including a search for active or previous lesions, and a monofilament test in primary care by a GP. If there is a positive screening, patients are referred to the second-level centers (specialists). These centers will ensure that a patient can be treated at the hospital within 24 hours, if necessary.

² For more on the IGEA project, see <https://www.epicentro.iss.it/igea/en/project>

Within this national regulatory framework, the diabetic foot networks in Tuscany have improved care provision by clearly defining the different stages of care and implementing clear boundaries and responsibilities for primary and secondary care.



It (the pathway) is a tool we have that can work beyond professional and institutional borders, I mean beyond me as a physician specialist and the GP of the district, but also beyond the hospital. »

Head of Diabetic foot clinic in Pistoia - Tuscany

The first level of care corresponds to a basic level of intervention for patients without any complication including first line treatments with immediate management of uncomplicated cases, but also prevention and detection of possible neuropathy. General practitioners carry out a full screening (including foot examination) every year in order to detect sensitive neuropathy, and to stratify the population into three classes of risk using a common tool, the International Windsor Index. Primary care physicians and nurses play a major role in identifying and treating type 2 diabetes patients without complications (treated by oral and diabetic drugs). Primary care nurses have an important role in educating patients about risk factors and providing preventive guidance both in primary care practice and during home visits.

The second level of care concerns patients classified as mildly complex and involves both the GPs and the diabetologists. These interventions are similar to those in the first stage but with more attention paid to screening and follow-up. If there is no sign of neuropathy, the GP or diabetologist continues to follow these up once a year, like the first group.

The last level concerns the most complicated patients, followed mainly by specialists involving the diabetic foot unit with dedicated spaces, specific technology and access to advanced vascular diagnostics and therapies. Patients with signs of neuropathy are directly referred to diabetic foot clinics.

- If there is a small sign of neuropathy, the patient is referred to the hospital within 6 months.
- If the risk is important, within a month.
- If the risk is very important, a quick intervention by the diabetic foot team is guaranteed within 72 hours. This commitment is very important and helps to treat the wound before it is too late.

Diabetic foot networks in Arezzo and Pistoia - Tuscany

In the Local Health Authorities (LHA) of Pistoia and Arezzo, in Tuscany, healthcare professionals from the two diabetic foot clinics have been working together for more than 10 years building networks that follow the chronic care model and a patient-centered approach. The diabetic foot clinics have multidisciplinary teams within the hospital, but also work effectively within a network of primary care professionals of their Local Health Authority.

A patient-centered network

The network involves different healthcare professionals working in primary, specialized secondary and hospital settings at different territorial levels.

An integrated multidisciplinary team within the hospital...

The care for complex patients is provided in facilities specialized in diabetic foot. In Arezzo, the diabetic foot clinic is based in a local hospital. Healthcare professionals working in this hospital are mostly paid by salary.

The clinic has a multidisciplinary team, led by a diabetologist, composed of three specialists, ten nurses and paramedical staff who work hand in hand with the hospital's vascular and orthopedic surgeons, cardiologists and specialists in internal medicine. The team also has a podiatrist (cf. Box). The diabetologist is responsible for all the care for their patients, following a common care pathway approach, regardless of where the care is provided.



It's our patient; it's not mine as a diabetologist, nor the GP's patient but it is our patient and we solve the problem for them, together. »

Diabetic foot networks in Arezzo and Pistoia - Tuscany

... which relies on a nurse coordinator...

The diabetic foot clinic employs a nurse coordinator who plays a major role in managing diabetic patients, both within and outside of the hospital. They are responsible for following all the patients who need treatment for a diabetic foot wound in the hospital, even if they are not patients of the diabetic foot clinic. The nurse coordinator follows up diabetic patients in any unit of the hospital to make sure that their treatments are adopted, and can assist with minor surgeries. They also work with the primary care team to make sure that primary care nurses and GPs get the right prescriptions and instructions for treating the wound after discharge.

Focus on a specific profession: the podiatrist

Podiatry or podiatric medicine is a branch of medicine devoted to the study of diagnosis, medical and surgical treatment of disorders of the foot, ankle, and lower extremities. Podiatrists have four to five years of education. Their role is to carry out activities of prevention and treatment of diabetic foot, with periodic follow-ups based on ulcerative risk classes.

The podiatrists are part of the integrated diabetic foot team of the clinic. They are employed by the hospital and usually work in the clinic, but recently they have been allowed to make home visits since their intervention is considered essential for some patients. Employing a podiatrist in the hospital is novel, since they usually work in private practices in ambulatory settings. The hospital's management considers that the investment is worthwhile, since podiatric care is essential in the treatment of diabetic foot for preventing amputations.

In order to intervene quickly on infected wounds, the team has access to the hospital's surgical theater for very serious cases. However, most of the time they organize their own dedicated surgical plot within the facilities (since the main theater is very busy and access, in the case of very infected wound, is restricted to the end of the day). Diabetologists are trained to do small surgeries and can be assisted by the nurse or the podiatrist.

The patient-centered approach implies that diabetologists and surgeons need to shift their focus away from procedures, in order to carry out a global clinical assessment of the patient. This is a challenge for most physicians who are trained as interventionalists.

Physicians have a responsibility matrix at each stage of the pathway. Depending on the stage, the physician must either be simply informed, collaborate, or be fully responsible for the patient.

... working with primary health care professionals within the Local Health Authority...

The nurse coordinator from the diabetic clinic works in close collaboration with the territorial nurses who monitor chronic patients in the community. They can call each other anytime if there is a problem. The clinic's diabetologists and specialized nurses train territorial nurses and home care nurses on how to treat the wound. Each time a patient leaves the clinic, the GP and home care nurse receive the prescription and a precise description of what to do and when during home care. The diabetic foot clinic receives about 35 patients every morning, and it is not possible to follow up on each of these patients every week. Therefore, the team relies on strong cooperation and communication with primary care teams.

In the same way and for certain cases, fast track visits can be scheduled within a maximum of 7 days with a planned admission to the recovery unit, upon request by primary care professionals.

... and share a common vision of care



I am just the coordinator of a team, as I don't have the right answer all by myself, so I also have a role in transmitting my expertise. For that I need to be very humble, but that's not a physician attribute (laughs). »

Diabetologist in Arezzo - Tuscany

All of the healthcare professionals involved in the treatment and prevention of diabetic foot share the same pragmatic patient-centered approach. A shared document in the form of a flowchart states that every actor in the pathway (diabetologists, GPs, nurses, etc.) has a responsibility. The referral document helps to clarify the responsibilities of each one and supports them in decision-making. This flowchart document was jointly created by all the professionals involved in the network and will be officially enacted by the Tuscan Regional Health Authority to be used in other regional pilot initiatives. The main elements of the flowchart are the following:

International Comparison of Specialist Care Organization: Innovations in Five Countries

Italy : Multidisciplinary Networks in Tuscany

IRDES - July 2020

- The diabetologist is responsible for the entire patient care with a pathway-oriented approach, regardless of where care is provided;
- The shared pathway must be decided in “consultations between equals”, where the diabetologist plays the role of a tutor;
- Multidisciplinary collaboration of clinicians involved in the hospital pathway, including diabetologists, vascular and orthopedic surgeons, cardiologists, radiologists, podiatrists, etc.;
- Strong training of diabetologists in basic surgical skills;
- Training of GPs and primary care nurses by specialists on diagnosing, treating and monitoring diabetic patients, as well as on patient education about self-management and motivation to help the patient be autonomous;
- Regular communication and training initiatives between hospitals and primary care professionals in order to improve both preventive and follow-up care;
- Reinforcement of the network of professionals in different local areas, not only between diabetologists but also between GPs, nurses, podiatrists, and footwear technicians;
- Flexible and shared fast-track pathways implemented for urgent treatments and diagnostic tests;
- Direct connection with First Aid and Emergency care professionals, with shared protocols for emergency interventions and hospitalizations.

Nurses coordinating care in and out of hospital

Nurses play a key coordination role at different levels.

At the regional level, “territorial nurses” working in multidisciplinary teams with GPs, are responsible for proactively enrolling and monitoring patients from five major chronic conditions (including diabetes) in the Local Health Authority. They are salaried by the region.

At public hospitals owned by the Local Health Authority, “nurse coordinators”, salaried by the LHA, are specialized in monitoring several chronic conditions. They are involved in the prevention and training of primary care nurses (usually with the help of «expert» patients). Each district has its own nurse coordinator. Some of them also provide palliative and home care. Nurse coordinators are trained in diabetic foot care by the diabetologist at the diabetic foot clinic.

The role of evaluation and benchmarking

The multi-dimensional healthcare performance evaluation system developed by the Management and Health Laboratory (MeS) of the Scuola Superiore Sant’Anna of Pisa has been instrumental in following diabetic care outcomes in Tuscany and in supporting networks (Nuti et al., 2016).

In 2004 the regional government of Tuscany entrusted the design of a performance evaluation system to the MeS. This system developed through local and regional consultations proposed about 130 performance indicators divided in 6 performance dimensions, accepted by all of the providers in the region. In a multidisciplinary approach, this systematic benchmarking allowed to compare care outcomes across providers and Local Health Au-

thorities, initially in Tuscany. Today, 10 other Italian regions have been participating in this performance evaluation system (PES) for carrying out inter- and intraregional comparisons.

The PES has been a powerful instrument for identifying unwarranted variations, local quality problems, comparing patient outcomes, and for motivating healthcare providers and LHAs to support initiatives for improving care organization. Through a multidimensional approach, the benchmarking of providers and local areas on care outcomes for diabetic patients (e.g., amputation rates, rate of hospitalization for diabetes, etc.) allowed to highlight variations in outcomes and to discuss with healthcare professionals the interpretation of the determinants of results achieved, in order to identify appropriate strategies for improving diabetic care.

The 2009 evaluation showed that Arezzo, where the integrated care team was in place, had the lowest amputation rates. This has triggered interest and inspired the practice in other local areas, in particular in Pisa where the amputation rates have decreased by 50% between 2009 and 2011. Current standardized amputation rates in the province of Arezzo is 2 per 100,000 inhabitants (the lowest in Tuscany), while in the province of Pistoia is 7 per 100,000 inhabitants. Hospitalization rates for diabetes in these two provinces represent half the average rate in Tuscany (15 versus 26 per 100,000 people) [National Health Outcomes Program, 2017 data].

2. HEART FAILURE NETWORKS IN TUSCANY

Background

- ▶ Heart failure (HF) is a serious condition which occurs when the heart muscle does not pump blood around the body efficiently. The diagnosis is not always easy since many of the HF symptoms can be common to other diseases. Not all conditions that lead to HF can be reversed, but treatments can improve the signs and symptoms of heart failure and help to live longer.
- ▶ Heart failure is the most common cause of hospital admissions in Europe for people over the age of 65 (Ponikowski et al., 2014). In Italy it represents a major public health issue (Guha and McDonagh, 2013).
- ▶ The prognosis of HF patients has significantly improved in the last 20 years, and it is estimated that the number of people living with heart failure will dramatically increase in coming years worldwide.
- ▶ Given the complexity of HF treatment, international guidelines recommend a multidisciplinary and integrated management of HF patients in order to reduce repeated admissions to hospital and mortality. The multidisciplinary interventions cover both primary, secondary and tertiary care involving nurses, general practitioners and cardiologists (Takeda et al., Cochrane 2012).
- ▶ Patient education and nursing care have a primary role in the ongoing assessment and management of HF patients.

This case study highlights the different dynamics and networks (formal or informal) developed by the health care professionals in Tuscany with the objective of improving HF treatment by better integration of HF care.

Overview of the development of heart failure networks

In Pisa, the cardiology team from the mono-specialist cardiac centre Fondazione Toscana Giuseppe Monasterio (FTGM) and general practitioners integrated at the local level in Territorial Functional Aggregations³ (Aggregazioni Funzionali Territoriali – AFTs) have been working together for several years on a new approach to patient care. Their objective is to avoid working in silos in hospital and in primary care by bringing together the formal and informal networks in their territory. This is a significant shift in practice and positioning of healthcare providers, especially for the hospital cardiologists who usually concentrate on the acute treatment phase of HF.

³ These are compulsory networks of primary care providers; they are expected to assure care continuity (24h/7day services) and to apply clinical governance principles for improving care quality.

In Tuscany, the heart failure networks result from different initiatives:

- The informal multidisciplinary network of professionals historically working together. This brings together primary care networks (compulsory in Italy) and networks of cardiologists.
- A new organization for better managing IC, put in place by the hospital in order to anticipate the discharges and ensure a better follow-up in primary care. Specialists perform certain treatments in healthcare centres.
- Networks initiated through regional policies financing nursing care at home and specialist ambulatory care within medical homes (in primary care practices).

A well-defined care pathway

In Pisa, defining a shared care pathway has been a way to reconsider the responsibilities of different healthcare professionals and to integrate different components of care. The major phases of the evolution of heart failure condition from the first acute phase to development of a chronic situation and to eventually palliative phase correspond to different steps in the care pathway. It is recognized that primary care providers play an essential role in prevention and screening phases, and the secondary care should be articulated with post-acute care.

From the hospital point of view, there are three main phases in a patient episode:

- The first phase corresponds to the emergency treatment. The hospital team adapts the treatment and the organization of next steps of care according to the clinical profile of the patient.
- The second phase is in-hospital management. This phase begins once the patient is stabilized and dyspnea is improved. Since a significant number of patients continue to have symptoms of HF, the goals in this phase are to improve hemodynamic and symptomatic status of the patient while preventing myocardial and renal injury.
- The last and third phase is the discharge planning. This phase is essential to the referral pathway. The hospital team stratifies the risks and discuss before the discharge about how to prepare the patient's return to home using a detailed checklist added to the medical record. The challenge of this phase is to create bridges and shared organization between different silos of care, mainly between the intensive care and continuous care, between cardiologists based in hospital and general practitioners and home care nurses and other professionals.

A hospital specialist network that integrates primary care providers...

In FTGM hospital in Pisa, the cardiology and vascular medicine team has been instrumental in developing a regional network in the area. First, in cooperation with another hospital (Massa) they constructed a centralized medical information system (HMS, Central repository) initially for research purposes. The HMS allows sharing detailed patient information concerning inpatient, rehabilitation, medications, etc. and comparing patient results across hospitals. Today they work together with primary care providers and community nurses for assuring continuity of care for heart failure patients in their local area.

... relies on district nurses working at patient's home...



The figure of the nurse with specific skills for an optimal management of discharges and for homecare management appears to be irreplaceable for the care of the heart failure patients. »

Head of the Cardiology department from the regional hospital

In FTGM patients who are identified by the specialist as high risk before the discharge are followed up at home by specialized nurses called the district home nurses. These nurses work in direct contact with the specialist and GPs. They follow up the patients at home and provide counseling for empowerment, self-management, patient and family education, and can propose medication reconciliation.

The district home nurses' responsibilities also cover:

- Controlling of vital parameters
- Evaluating of the patient's adherence to therapy
- Counseling on life style, diet, education on medications, etc.
- Organization of healthcare needs (medical examinations, etc.).

District home nurses are specialized in chronic conditions and they are specifically trained in palliative care to follow-up the patient at home providing end of life care for avoiding hospitalizations. These nurses, considering patients' living conditions, can suggest modifications to their care plan. They visit the HF patients after discharge at home three times a week or more if necessary. Providing care for these chronic patients at home also allow to verify that their social needs are covered in the long term.

Since 2010, as part of the Health Initiative, nurses have been trained specifically for following up certain chronic patients, starting with diabetics type 2, patients with heart failure at stage C and patients with pulmonary bronchitis (COPD). Concerning patients with heart failure, the district nurses work closely with the local hospital, and they ensure patient education and coordination of care in primary, secondary and home setting.

District home nurses are salaried by the region and they work directly both with the specialists and the GPs. They provide regular updates and feedbacks on patients to both and are considered as an essential link by both of them. This organization of care is innovative, since the primary home care nurses work usually only with GPs.

... and on multidisciplinary community health centers

The Tuscan model of primary care called "AFT" (Aggregazioni Funzionali Territoriali) relies on networks of general practitioners who are responsible for the population of a territory (defined locally) and who must apply common principles and clinical governance aiming to improve continuously the quality of their services. They usually consist of 15 to 25 general practitioners (and often family pediatricians) who work in an integrated man-

ner, with nurses and administrative staff. Currently (in 2017), 116 AFT have been set up in Tuscany. On average, each AFT supports a population of 30,000 patients for approximately 23 physicians (Nutti et al., 2018).

Since 2007, the organizational model that has been promoted at the national level, Community Health Centers (CHC), or Case della Salute in Italian, indorses multidisciplinary and integrated health care provision (Barsanti and Bonciani, 2018). The model involves the colocation of GPs, who traditionally work in single practices, within the same building with other professionals, including specialists, nurses, social workers and administrative staff, as well as with specific out-patient services (i.e. blood testing, maternal care, diagnostic imaging). GPs have to conduct at least some of their weekly activities in the HCC in collaboration with other professionals. However, they also maintain their own individual or group practice.

There is no single CHC model, but there are some common principles defined in national guidelines: (1) team-based care; (2) patient-centered approach; (3) enhanced access to care with extended out-of hour services; (4) care coordination and integration across health and social care; (5) quality and safety benchmarking, clinical decision support tools, audit

La Rosa: an example of multidisciplinary territorial care organisation

The Casa della Salute «La Rosa» covers a territory of around 23.000 inhabitants in 6 municipalities of Pisa. The medical home is led by 16 general practitioners working in the site La Rosa but also in contact with 28 peripheral small practices. La Rosa works as a community healthcare Clinique as part of one of the Aggregazioni Funzionali Territoriali (AFT) in Tuscany. GPs work closely with a team of nurses and social workers for providing outpatient and home care. General practitioners are trained in some specific treatments and minor surgery. For example:

- 1 GP performs ultrasounds.
- 1 GP performs spirometer examinations.
- 1 GP reports ECG traces.
- 1 GP performs dialectological evaluations.
- 1 GP performs minor ambulatory surgeries (suture, ...).

The center also offers:

- Continuous care with a general practitioner available 12 hours a day and provides emergency care and first aid for minor (not life threatening) cases, performs primary care and provides advice on telephone.
- Two medical guard doctors, 12 hours on Saturdays and holidays.
- A nursing unit that is open 12 hours per day.

Next to these primary care services, the Clinique integrates several medical specialist services especially cardiology, dermatology, small surgery and ophthalmology. For example, an ultrasound service has been set up by radiologists, who come to La Rosa 4 times a week for a couple of hours.

Concerning HF, specific care pathways have been created with direct access to diagnostic services in the hospital cardiology unit (with the two local hospitals). The collaboration between the cardiology network and the AFT in which the Casa della Salute is integrated has been supported by the Local Health Authority which decided to remunerate the cardiologists to work in primary care setting (medical home). In La Rosa the cardiologist comes 4 hours per week and is paid by the LHA on an hourly basis. Several health care professionals from La Rosa explained how “revolutionary” it has been for them to be able to work directly with a cardiologist in their own environment.

and systematic discussion among professionals (Odone et al., 2016). Most of the structures have a data system centralizing all patient medical records accessible by any of the physicians working in the center.

Therefore, the Casa della Salute model helps to improve both the clinical integration, encouraging the connection between the primary, secondary and tertiary care providers, and organizational integration, considering the coordination of services and joint efforts towards quality improvements among the team sharing a common vision and experience (Curry and Ham, 2010). Moreover, CHC also relies on the logistical integration, since all professionals work in the same building (at least partly).

While there are wide variations in how regional governments have implemented the CHC model and in terms of regional resources for HCC, Tuscany is considered as one of the regions that has successfully adopted the national guidelines (Bonciani et al., 2017). Since 2008, the Tuscan Health Authority has supported the CHC model as a single point of access to primary care services which is easily recognizable by the population and has promoted integrated care. In 2014 there were 33 HCC set up on a voluntary basis in 8 of the 12 LHAs, with 202 voluntary involved GPs out of 2,700, with on average 12 working hours per week in a CHC. On average in each CHC there were 7 nurses, 2 social workers and 7 specialists servicing around 9,000 patients. The largest number of specialist services available were cardiology (58%), ophthalmology (49%) and dermatology (42%). There was also a large presence of obstetricians and gynecologists (Barsanti and Bonciani, 2018).

Continuous evaluation of outcomes

This new organization inspired by the cardiology teams in two hospitals is very much supported by data and indicators on patient outcomes. The local networks are required to invest in data and shared information systems with a strong benchmarking culture of process and outcome indicators. The data repository developed by the two hospitals also allows monitoring clinical and nursing outcomes, supports breaking the silos within the hospital (across departments), and creating bridges between acute and continuous care. In addition, the regional performance evaluation system (PES) which provides continuous feedback on patient outcomes such as mortality, readmission and complication rates by local area in the region, helps clinicians to take responsibility for the results of all patients in their area rather than just their patients. The PES has improved the monitoring of patient outcomes after hospital discharge and helped cooperation amongst health professionals in the territory for reducing the rates of re-hospitalizations and complications for patients suffering from heart failure.

More recently, the Patient Reported Outcomes Measures (PROMs) are also implemented to monitor the quality of heart failure care pathway from the patients' point of view. This tool allows to collect patient reported data to measure outcomes of the whole care pathway rather than just looking at the outcomes of primary and secondary care providers, and hence shifting the attention to patient for encouraging individual providers to work together.

3. KEY LESSONS

Challenges

- ▶ In both cases, the most important difficulty appears to be changing the professional culture for different providers. Both for general practitioners and for specialists, it is challenging to accept that nobody has the complete answer for a patient, but that the solution has to be defined collectively.
- ▶ The GPs, as gatekeepers, have the responsibility for referring complex patients to specialists, but many of them are still reluctant to “share” their patients.
- ▶ It is not easy to convince the hospital management that hospital staff can work effectively outside the hospital. The mobility of staff between hospitals and primary care settings appears to be important. Homecare visits by hospital staff are sometimes the most efficient intervention, but they are difficult to organize/finance.
- ▶ By default, health services are provided in silos within a hospital (in different departments) and across hospitals (teaching versus regional). Ensuring communication within and across hospitals requires a lot of effort from the healthcare professionals involved.

Enablers

- ▶ A clear shared vision of how good patient care (or a good care pathway) should look like, supported by unequivocal clinical guidelines...
- ▶ ... emerging from a bottom-up synergy: care protocols and the division of responsibilities of different health professionals in the care pathway are decided/written by a multidisciplinary team and tested before their implementation by Local Health Authorities and the region. This helped the adherence of different health professionals, including nurses, etc., in care networks and has been a key element in creating a new culture of cooperation and patient care where no physician is the consultant of the other, but where each of them shares the responsibility for “their patients”.
- ▶ The empowerment of general practitioners and specialists for caring a local population. GPs are obliged by law to be part of a local network that is responsible for their population and follows clear recommendations for integrating primary, secondary and tertiary care.
- ▶ Trust between healthcare professionals working in the same local area and who have known each other for many years. Trust also comes with the experience of working together when they see that the other person (GP,

International Comparison of Specialist Care Organization: Innovations in Five Countries

Italy : Multidisciplinary Networks in Tuscany

IRDES - July 2020

nurse, specialist, etc.) can help to find a solution or provide essential information to improve patient care.

- ▶ The fact that most healthcare professionals are paid either through capitation or on a salary basis facilitates this collaboration since “sharing their patients” does not present financial risk.
- ▶ Managerial and financial autonomy of hospitals: LHA hospitals, paid by global budgets have managerial flexibility in using their resources and investing in novel practice for improving their performance indicators.
- ▶ A performance evaluation system (PES) which enables the comparison of patient outcomes, and benchmark clinics and Local Health Authorities. The PES helped creating a culture of best practices shared among the professional community to examine and support their practice. The fact that the evaluation is carried out by an independent and trusted scientific body has been instrumental in creating common accountability through data.
- ▶ The Tuscany region also uses PES to encourage hospitals to improve their outcomes through performance bonuses paid directly to hospital CEOs.

4. REFERENCES

- Barsanti S., Bonciani M.** (2018). “General Practitioners: between Integration and Co-location. The Case of Primary Care Centers in Tuscany, Italy”. *Health Services Management Research*, 0(0), 1-14.
- Bonciani M., Barsanti S., Murante A.** (2017). “Is the Co-location of GPs in Primary Care Centres Associated with a Higher Patient Satisfaction? Evidence from a Population Survey in Italy”. *BMC Health Services Research*, (2017) 17:248, DOI10.1186/s12913-017-2187-2
- Carinci F., Massi Benedetti M., Klazinga N., Uccioli L.** (2016). “Lower Extremity Amputation Rates in People with Diabetes as an Indicator of Health Systems Performance. A Critical Appraisal of the Data Collection 2000–2011 by the Organization for Economic Cooperation and Development (OECD)”. *Acta Diabetol.* 53(5): 825–832.
- Donatini A.** (2019). “The Italian Health Care System”. International Healthcare System Profiles, Commonwealth Fund, accessed 05/03/2019 <https://international.commonwealthfund.org/countries/italy/>
- Ferré F., Giulio de Belvis A., Valerio L. et al.** (2014). “Italy Health System Review”. *Health Systems in Transition*, 16(4):1–168.
- Guha K., McDonagh T.** (2013). “Heart Failure Epidemiology: European perspective”. *Curr Cardiol Rev.* 9(2):123-127.
- Lo Scalzo A., Donatini L., Orzella L. et al.** (2016). *Italy: Health System Review.* European Observatory on Health Systems and Policies.
- Nuti S. et al.** (2016). “Bridging the Gap between Theory and Practice in Integrated Care: The Case of the Diabetic Foot Pathway in Tuscany”. *International Journal of Integrated Care*, 16(2): 9, pp. 1–14, DOI: <http://dx.doi.org/10.5334/ijic.1991>
- Odone A., Saccani E., Chiesa V. et al.** (2016). “The Implementation of a Community Health Centre-based Primary Care Model in Italy. The Experience of the Case della Salute in the Emilia-Romagna Region”. *Ann Ist Super Sanita*; 52: 70–77.
- OECD.** (2017). Italy: Country Health Profile 2017: <https://www.oecd.org/health/italy-country-health-profile-2017-9789264283428-en.htm>
- Takeda A., Taylor S.J., Taylor R.S., Khan F., Krum H., Underwood M.** (2012). *Clinical service organisation for heart failure.* Cochrane Database Syst Rev. ;(9):CD002752. Published 2012 Sep 12.

International Comparison of Specialist Care Organisation: Innovations in Five Countries

England • Germany • **Italy** • Netherlands • United-States

Italy: Multidisciplinary Networks in Tuscany

Lucie Michel, Zeynep Or (IRDES)

Under pressure of increasing demand for healthcare from an ageing population with multiple chronic conditions, France, as other countries, seeks to advance care coordination across primary, hospital and long-term care sectors. Specialists play an essential role in treating patients with chronic conditions, but little attention is given to their organization out of hospitals, and their role in enhancing care coordination and patient-centered care provision.

In order to investigate different ways in which specialists are working out of hospital to integrate primary and social care, we carried out case studies in five countries (England, Germany, Italy, Netherlands, England and United States). In each study, we examined how specialist care is organised around specific health conditions for integrating care in community. These case studies, carried out through site visits between June 2018 and March 2019, explore the care organization around patient pathways by describing the coordination of roles and tasks between specialists and other health professionals involved, their innovative features and underlying financial models. A synthesis of results across five countries is available at:

www.irdes.fr/recherche/2020/qes-248-decloisonner-les-prises-en-charge-entre-medecine-specialisee-et-soins-primaires-experiences-dans-cinq-pays.html

The two case studies presented here for Italy describe the organization and functioning of multidisciplinary networks managing diabetic foot and heart failure patients in the Tuscany region.

1-1b

Études de cas

Irdes
117Bis rue Manin 75019 Paris
Tél. : 01 53 93 43 00
www.irdes.fr

IRDES
Institut de recherche
et documentation en
économie de la santé

ISBN : 978-2-87812-525-2
© juillet 2020