How to spread a best practice within a Regional Healthcare System?
The case of diabetic foot in Tuscany

Tommaso Grillo Ruggieri, PHD student
Barbara Bini, PHD Student
Professor Sabina Nuti, Director
Laboratory of Management and Healthcare (MeS Lab),
Institute of Management,
Scuola Superiore Sant’Anna of Pisa (Italy);
Doctor Lucia Ricci, Diabetologist, Arezzo Local Health Authority, Arezzo (Italy).

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Major diabetes-related amputation rate per million residents in Tuscan Local Health Authorities (LHAs), 2010-2012.

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<th>2010</th>
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Source: Tuscan Performance Evaluation System, MeS Lab, IdM, SSSUP, 2013

What are the **determinants** of this variability? What are the **organizational factors** driving good and poor performances?
Periodic Foot Control in the Primary Care Center (PCC)

Do nurses control your feet during PCC visits?

Source: Mes LaB interviews 2011
From performance measurement to performance management

How to reduce variability of Tuscan outcomes in diabetic foot care?
Need for a methodology to identify and to spread the best practices

→ “From measurement to improvement”

Our aim:

- To reduce the current variability of care by identifying and spreading at regional level the organizational best practices, in order to enhance equity and quality of care and to reduce costs. → “Same care for the same need”.

Our project:

A) Mapping together with health professionals and managers the organizational pathway of care in each LHA and Teaching Hospitals (THs), through questionnaires, semi-structured interviews and specific visits;

B) Tracking the “amputated patients’ stories” through the record linkage of administrative flows.
A) Mapping and sharing an evaluation of the organizational path

- The **questionnaires** was composed by 46 questions regarding all the phases of the organizational care pathway, collected in **9 Areas** (training of professionals, patients and caregivers education, access and visits to the outpatient clinic, urgent and emergency path, implementation of information systems, revascularization phase, surgery, follow-up and continuity of care). **Researchers also visited each LHA/TH diabetic foot outpatient clinics and interviewed professionals.**

- **Results** were then compared in a **benchmarking perspective**, considering each phase of the patient care path and **sharing with professional an evaluation** based on compliance with guidelines and their opinions.

**Identification of the organizational best practices for each Area shared with professionals**
B) Mapping patients’ pathways through the record linkage of administrative flows

- Focus on patients with only one diabetes-related major amputation in the year 2011 (n=162) and amputated for the first time considering the period 2009-2011.
- For this study population researchers analyzed data for the period ranging from 1 year before to 1 year after the hospitalization for the amputation, in order to track the **real pathways followed by these patients**.

The record linkage comprehended:
  i) Hospital Discharges Flow (volumes, causes, hospital of admission, department of discharge, co-morbidities, etc);
  ii) Outpatients procedures (diagnostic exams, visits, etc);
  iii) Drugs consumption;
  iv) Estimate of costs.

- Results were compared in a benchmarking perspective with regards to the activity provided for the amputated residents in each LHA.

Tracking **diabetic amputated patients’ stories** through the **record linkage** of administrative flows allowed researchers, professionals and managers to understand if something “went wrong” in the care pathway and if it is possible to improve the organization of care in each LHA in order to achieve **better outcomes** and patients’ **quality of life**.
Results of the mapping analysis
Some LHAs have effective organizational mechanisms to ensure integration and cooperation among different providers and professionals.

Need to spread these **effective tools among all the LHAs** in order to **enhance communication, cooperation and integration among providers.**

E.g. Some LHAs have effective fast-track pathways a/o direct relations with GPs/patients for urgent admissions or diagnostic examinations.

GPs and Nurses in Primary Care Center

Diabetic Foot Outpatient Clinics

Hospital admission (if necessary)

E.g. Some LHAs organize periodic multidisciplinary training courses and meetings for patients, care-givers a/o GPs.

**Provider A** (e.g. GPs, LHA)

**Provider B** (e.g. Outpatient Clinic, TH)

*Courtesy of Nicoline Wackerberg, Coordinator of The Esther Network, Jonkoping, Sweden*
Keynotes from patients’ stories: looking for proxies for integration and continuity of care

- The educational level of the amputated patients is lower than that of other diabetic a/o not diabetic patients → *education and training matter!*
- Considering a period ranging from 1 year before the amputation to the surgical intervention, 4 Patients of the study population were not admitted in any hospital or visited in any outpatient clinics → *Something did not work!*
- Patients’ pathways usually involve professionals of different organizations (e.g. LHA and TH, outpatient clinics in different LHAs, several departments) and are fragmented within the entire Region → *In this case, tools for integration should be reinforced.*
- Diabetes is not always properly codified and diagnosed in Hospital Discharges and there is high variability among LHAs → *Need for greater awareness/focus on this disease among all providers!*
- Best performer in outcomes shows an higher diabetes-related lower limb revascularization rate thanks to its effective and integrated organizational path with cardiologists → *Integration to enhance preventative interventions works!*

**Summing up:** Best performers show good or best results in each *proxy* collected from administrative data for integration and continuity of care. Data supported the discussion among professionals about their different approaches and organizations in the diabetic foot pathway.
Performance management and managerial implications

- The project methodology allowed to identify the main organizational critical points and the Best Practices in the diabetic foot pathway in Tuscany. Measurement should be the base of a continuative strategy to improve results, spreading integration tools that may drive performances and outcomes.

- Health professionals had the opportunity to think about the implications of their choices and they requested more detailed data on their patients in order to carry out internal audits about the most critical cases.

- The project provided information and data that have been used for updating the regional policy on the diabetic foot care organization in July 2013.

- These results have been achieved through a constructive approach directly involving professionals and creating a permanent group of work of clinicians and researchers, aiming at discussing data and at proposing new performance indicators to be included in the Tuscan Performance Evaluation System. Other professionals (e.g. vascular surgeons) and GPs will be involved in this group.

The project is the first of a series of initiatives carried out by the MeS Lab with the Tuscany Region, focused on the systematic comparison and sharing of data with health professionals. This seems to be the most appropriate method of work in order to identify the determinants of the variability and to improve outcomes, performances, effectiveness of care and patients’ quality of life.
Thank You for Your attention!