Project for proactive health care implementation at community level –
Tuscany Region

Tuscany Region, Italy
Part I: Setting the scene

In Italy, planning and management of the health system is entrusted to the Regions and Autonomous Provinces. Therefore, there are 21 Regional universal health systems, which aim to ensure everybody has equal opportunity for health, but they differ in organization, quality and provided healthcare services. This situation leads to an increasing variability regarding the equity of access to healthcare services.

In the Tuscany Region, all the strategies and actions related to social and health care aspects are described in the Regional Integrated Social Health Plan (PISSR), which aims to strive for continuous improvement of the results of monitored indicators and to reduce variability in order to pursue the balance between sustainability and equity. Today, the existing intra-regional variability on most of the indicators is often the result of choices and organizational skills in different areas, rather than the ability of the health system to respond to specific health needs of the citizens. The presence of this type of variability is a sign of potential inequalities in guaranteeing the appropriate access to health care and quality of health services.

Many studies have shown the correlation between socio-economic and cultural conditions, and, for example, hospital admissions or mortality. In these years the Tuscan health system has worked very hard to reduce these differences. And the data show the first partial results, arising from the experience of the implementation of the chronic care model: the relative risk of hospitalization related to educational level (higher risk with lower level) was reduced by 20% for heart failure, diabetes and COPD and over 13% in the case of pneumonia. Even emergency room admissions, more frequent in people with low educational level, were reduced by more than 12%.

In PISSR some strategies tackling health inequalities are promoted, such as the introduction of community health educator, acting as facilitator and approach to services, involving the communities of foreigners in the territory. The project would promote a health initiative, the immigrants for immigrants, with obvious benefits in empowerment of individuals and communities, strengthening their expertise in health. He also intended to foster communication between staff and patients, including increasing the knowledge of staff about the cultural aspects related to health.

Furthermore, by analyzing the health determinants of immigrants, there is a need to intervene on the most frequent causes of loss of health mainly correlated with the conditions of work and life generally more disadvantaged than the rest of population. In addition to this, particular attention should be devoted to prevention and treatment of cancer and infectious diseases, especially TB and HIV / AIDS. Besides, the economical crisis that Italy is facing led the Government to increase the amount of contribution to the cost of health-care by the citizen regarding drugs purchase, diagnostic services and specialist visits. The Tuscany Region introduced a method of co-payment that has been stratified considering families income in order to guarantee an equitable and fair healthcare services access and drugs purchase and consumption.
Part II: In depth analysis

Practice - Evaluation

Tuscany is a central Italian region with 3,730,130 inhabitants, 867,010 over 65, at 1/1/2010. During the last decades, the region has faced population ageing. Therefore, a further increase in chronic diseases is expected in the future together with an increase of the related economical burden and worsening in the individuals’ quality of life. In order to tackle this scenario, the Tuscan Regional Health Ministry launched the “Project for proactive health care implementation at community level” as one of the major items of the 2008-2010 Regional Health Planning. The project is based on the implementation of the Chronic Care Model (CCM) and aims to switch the daily care for patients with chronic diseases from an acute and reactive activity to a proactive and planned regular intervention. In the first phase, starting on 1/6/2010 until 1/3/2011, the considered diseases were diabetes mellitus type II and heart failure. In the next step, the model was extended to stroke and COPD. The involved partners are 11 of the 12 Local Health Authorities of Tuscany; General Practitioners, nurses and health workers.

The pivotal unit of the implementation is the “module”, which is a clinical team made up of 5 to 15 General Practitioners (GP), a nurse, and a health worker. A module has about 10,000 patients. Thus, 943 GPs, grouped in 93 modules, are involved. They assist one third of the whole population of Tuscany. The GPs adhered to the project on a voluntary basis. They chose among their patients those who could participate in the program.

The activity of the module is carried out in the main practice where visits are performed following a predefined schedule in order to assure monitoring of the specific chronic disease considered in the CCM and to prevent its evolution.

The module, under the supervision of the GP, has to guarantee coordination within the team and with other health system stakeholders and continuity of the pathway between territory and hospital. This goal is achieved by the enforcement of diagnostic and therapeutic pathways which are valid supports to decision making. The GP has a determinant role in clinical governance since he guarantees appropriateness and care quality, and he directs team activities to shared goals measured by specific indicators. Specifically, the purposes of the healthcare plan are: health education of the patient and his family, adherence to healthy lifestyles (physical activity and eating habits) and prescribed therapy, self management support and empowerment; assessment and nutrition education for the identification of risk nutrition according to procedures defined and shared (use of the FINDRISC score); control of efficacy, tolerability and side effects of the therapy program; evaluation and control of comorbidities and complications already existing. The nurse is responsible for counselling, self-management support, and carrying out the detection of clinical parameters such as recording the weight, waist circumference, blood pressure, blood glucose.

Team activities are supported by the appropriate use of electronic health record.

A pay for performance scheme, based on a small set of process and outcome indicators, was set up.
The project is indirectly addressing the Health Inequalities issue and it is funded only by Structural Funds.

The specific issue has been considered in a nested project developed in the Local Health Authority of Arezzo. The aims of the study were to check the following hypothesis:

1. patients with the worst socio-economic condition follow on average less healthy lifestyles and less appropriate care pathways
2. If GPs adhere to the Chronic Care Model:
   a) patients adopt healthier lifestyles and more appropriate care pathways
   b) differences between patients with the worst socio-economic condition and others are reduced
   c) changes in drugs consumption, specialist visits, diagnostic procedures, in emergency room and hospital admissions are observed

According to international scientific literature, the implementation on the Chronic Care Model should improve lifestyles, processes of care and intermediate outcomes, and reduce socioeconomical differences.

A prospective longitudinal observational study of two cohorts was chosen to evaluate the effects of the program in the Local Health Authority of Arezzo. The two cohorts consist of: 1,500 patients with diabetes aged 45-84 years, randomly selected among assisted by GPs of USL 8 who have joined the CCM; 1,500 residents in the ASL of Arezzo aged 45-84 randomly selected among those who use oral antidiabetic drugs and treated by GPs not adhering to the CCM.

The evaluation was performed by the LHA of Arezzo and the Regional Health Agency of Tuscany. Also in this study, only Structural Funds have been used to conduct the evaluation, that is only 1% of the general project budget.

Data about lifestyles (smoking, alcohol, eating habits, physical activity, Body Mass Index) and socio-economic conditions (educational level of the patient and his family, how well people thought they were making ends meet, to live in a house for rent/to be the owner) have been collected by the administration of a telephone questionnaire in the starting phase of the CCM and after 12 months. (phone calls to cases during three weeks in July 2010, calls to controls in the weeks following)

Data about diagnostic procedures, drug consumption, emergency room and hospital admissions, and specialist visits have been collected by administrative database. In January 2011 ended the first phase. 1494 cases were interviewed (809 men and 685 women) and 1500 controls matched for age and sex. After one year, 1494 cases have been interviewed a second time and by the end of the year, also the control group will be interviewed again.

Considering lifestyles for the 2994 patients with diabetes, we observed that:

the 24% are obese (22% males and 26% females), the 61% are sedentary (57% males and 67% females), the 13% are smokers (15% males and 11% females).

Among those who have financial difficulties and are living in a rented house, the relative risk of being obese increased to 1.66 (CI: 1.19-2.32); the relative risk of being
sedentary, increased to 1.50 (CI: 1.07-2.10); the relative risk of smoking increased to 1.79 (CI: 1.21-2.63). All the proportions computed were adjusted for gender and age.

In the two figures below, percentages of deprived and not deprived patients that had a microalbuminuria and glycated haemoglobin testing in 2009 and 2010, considering the adhesion to the Chronic Care Model, are shown. People who declared they were not making ends meet are considered deprived.

**MICROALBUMINURIA**

![Graph showing microalbuminuria percentages over time for deprived and non-deprived patients.](image)

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<th>2009</th>
<th>2010</th>
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<tbody>
<tr>
<td>deprivati-CCM</td>
<td>33.3</td>
<td>62.2</td>
</tr>
<tr>
<td>non deprivati-CCM</td>
<td>43.3</td>
<td>63.4</td>
</tr>
<tr>
<td>deprivati-noCCM</td>
<td>41</td>
<td>41.4</td>
</tr>
<tr>
<td>non deprivati-noCCM</td>
<td>42.3</td>
<td>37.4</td>
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**GLYCATED HAEMOGLOBIN**

![Graph showing glycated hemoglobin percentages over time for deprived and non-deprived patients.](image)

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<th>2009</th>
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<tr>
<td>deprivati-CCM</td>
<td>64.4</td>
<td>80</td>
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<tr>
<td>non deprivati-CCM</td>
<td>75.8</td>
<td>84.2</td>
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<tr>
<td>deprivati-noCCM</td>
<td>71.1</td>
<td>74.7</td>
</tr>
<tr>
<td>non deprivati-noCCM</td>
<td>77.4</td>
<td>79.6</td>
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Early data suggest that this population of patients with diabetes who declared to have financial difficulties tends to follow less healthy lifestyles and less appropriate processes of care. Although still preliminary the findings show that the implementation of the Chronic Care Model entails a better adhesion to national diagnostic and therapeutic guidelines about diabetes care and reduces the differences considering the socio-economical condition. On the whole, lifestyles and
care pathways have to be improved therefore it is necessary to strengthen both the actions of health promotion and the proactiveness in the delivery of care.