

THE IMPLEMENTATION OF MYSTAR CONNECT CLINICAL INFORMATION SYSTEM IMPROVES INTERMEDIATE OUTCOMES IN 42498 PEOPLE WITH DIABETES

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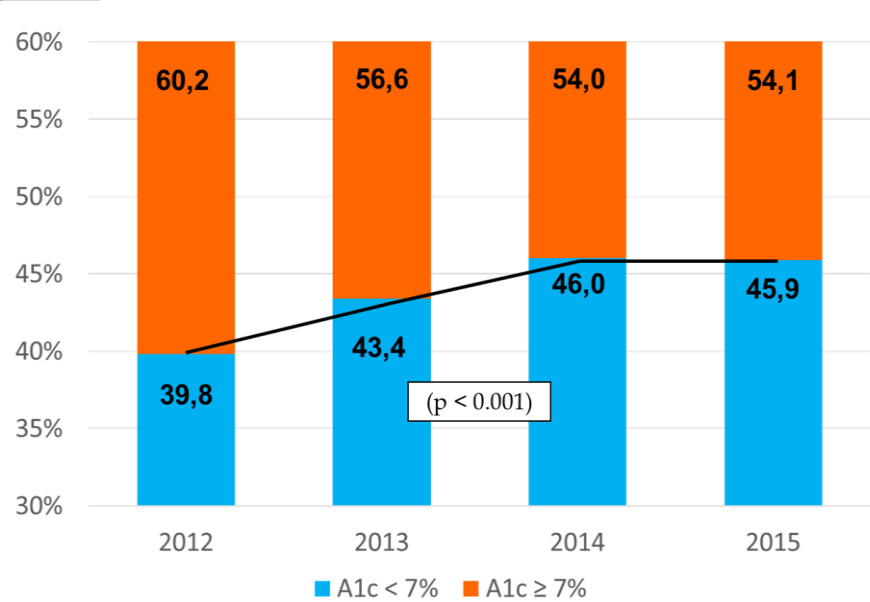


Background. The Diabetes Network of Palermo District links all the public healthcare diabetes resources of Palermo District. Since 2012, DNPD implemented a Chronic Care Model (CCM) based on the full sharing of clinical data between primary care resources and specialized diabetes centers through a single clinical information system (MyStar Connect®). Aim of the present study is to assess if the introduction of MyStar Connect® was followed by an improvement of the management of people with diabetes.

Methods. Assessment of the trend of the proportion of people with diabetes who yearly (from 2012 until to 2015) achieved some target values of intermediate (primary) outcomes: HbA1c <7.0%; LDL <100 mmHg; systolic blood pressure (SBP) <140 mmHg; a triple target represented by all of the previous outcomes. Secondary outcomes were defined by different target values of the primary outcomes. A sub-analysis for diabetes type was also performed.

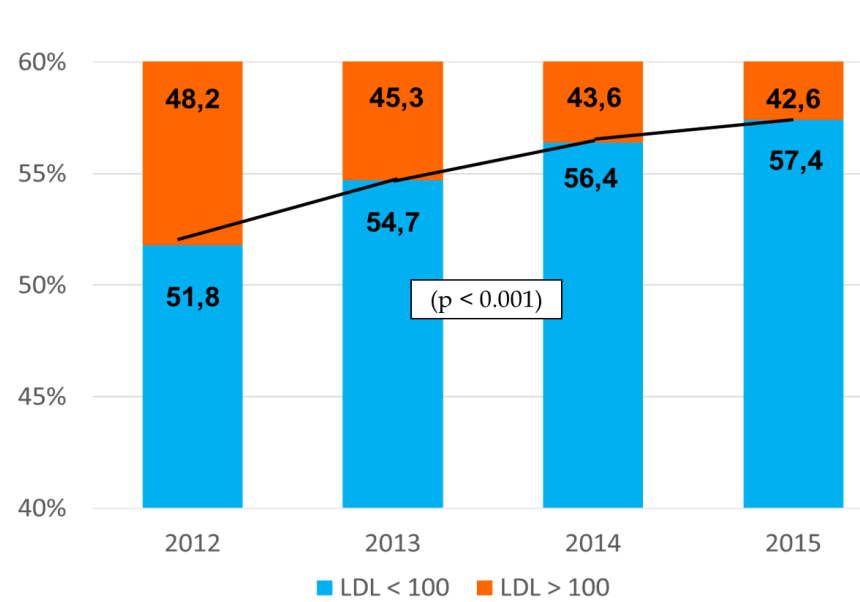
Results. MyStar Connect® implementation on 42498 people with diabetes was followed by a significant increase, from 2012 until to 2015, of people who achieved HbA1c <7.0% (from 39.8 to 45.9%; $p < 0.001$) (Fig. 1), LDL <100 mmHg (from 51.8 to 57.4%; $p < 0.001$) (Fig. 2), SBP <140 mmHg (from 53.0 to 57.5%; $p < 0.001$) (Fig. 3). Triple target was achieved by 37.2 to 51.6% of 4254 people with diabetes ($p < 0.001$) (Fig.4). A sub-analysis for diabetes type showed an improvement of all outcomes in type 2 diabetes, and an improvement of SBP in type 1 diabetes.

Figure 1. Yearly rate of people who achieved A1c < 7.0%, from 2012 until to 2015



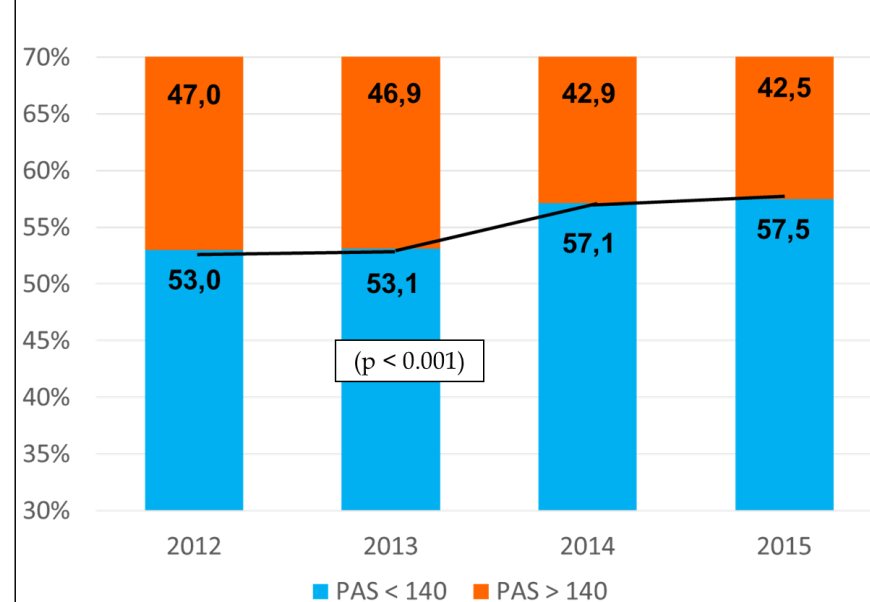
Trend evaluation by contingency table (chi square test)

Figure 2. Yearly rate of people who achieved LDL < 100 mg%, from 2012 until to 2015



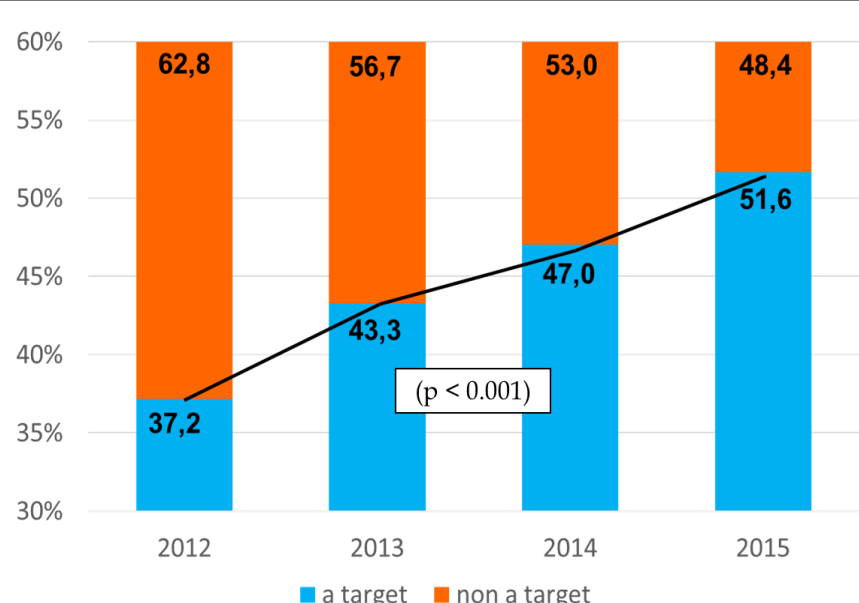
Trend evaluation by contingency table (chi square test)

Figure 3. Yearly rate of people who achieved SBP < 140 mg%, from 2012 until to 2015



Trend evaluation by contingency table (chi square test)

Figure 4. Yearly rate of people who achieved the triple target (A1c < 7.0% and LDL < 100 mg% and SBP < 140 mg%), from 2012 until to 2015



Trend evaluation by contingency table (chi square test)

Discussion and Conclusions. CCM implementation to people with diabetes has the aim to improve the health and reduce the costs of diabetes care. One of the main elements of CCM is represented by the use of a single clinical information system. One of the main limits of the study is that the number of recordings for each outcome was available only in a fraction of the people recorded in the database, introducing a potential bias: for example, on a sample of 42498 patients, we were able to define the achievement of an A1c target only for 17197 patients throughout the entire observation time. Though we are not able to exclude the influence of other factors, such as the introduction of new drugs and of other tools of the CCM, MyStar Connect® implementation was followed by a significant improvement of many relevant intermediate outcomes, with a reasonable long-term reduction of the onset and progression of diabetes complications and, therefore, of diabetes costs.