

Brief Communication

Changing diabetes® barometer: A global quality monitoring framework for improving patient outcomes

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ABSTRACT

This article has a global perspective and includes examples from several continents i.e. Latin America, Africa, Asia and Europe. The Changing Diabetes® Barometer (CDB) is a Novo Nordisk initiative that works as a worldwide quality monitoring system for diabetes management to measure the gains made in the fight against diabetes focusing on quality of care and patient outcomes. CDB provides a platform for countries to share local diabetes data and good practices. In doing so it aims to disseminate improved practices of care. CDB is conceptualised as a framework that can help change diabetes. Its three cornerstones are “Measure, Share, Improve” (MSI):

- MEASURE the quality of diabetes care through patient outcomes and care processes.
- SHARE data on the quality of diabetes care and good practices with all relevant stakeholders.
- IMPROVE the quality of diabetes care by identifying and actively spreading good practices in diabetes care and inspire others to adopt and follow best practice examples.

Italy and Algeria both constitute best practice examples of CDB initiatives. In Italy a registry solution is already solidly implemented and improvements in patient outcomes have been documented. The initiative in Algeria has recently been initiated including establishment of IT equipment in participating clinics to ensure all relevant measurements. This will enable transparency on current level of quality of diabetes care. Both initiatives have the common goal of driving improvements in quality of care and patient outcomes across clinics. India is another good example where data is collected through the CDB aimed at driving improvement of diabetes care in order to improve quality of life for people with diabetes. CDB in India is implemented in five states (Goa, Bihar, Gujarat, Puducherry and Andhra Pradesh) and is planned to be expanded to five additional states.

Key words: Data collection, improve, measure, registry, share

INTRODUCTION

The changing diabetes® barometer (CDB) is a worldwide quality monitoring system for diabetes management developed to measure the gains made in the fight against diabetes focusing on quality of care and patient outcomes. Based on the measure, share, and improve (MSI) framework the ambition of CDB is to increase transparency on quality of care and patient outcomes globally in order to share this with all relevant stakeholders to drive adoption of best practices and improved patient outcomes.^[1]

BACKGROUND OF THE CHANGING DIABETES® BAROMETER

“We need to be able to compare interventions and outcomes, just as we do medicines, to drive further innovation and ensure best practices are shared. For too long the fight against diabetes has been conducted in the dark; in many places spending great sums on care without knowing whether the battle is being won or lost”.^[1]

Lars Rebien Sorensen, CEO Novo Nordisk Speaking at the UN resolution on diabetes in 2007

The CDB is a worldwide quality monitoring system for diabetes management developed to measure the gains made in the fight against diabetes. A Novo Nordisk initiative, the Barometer is an essential tool in the effort to change how diabetes is dealt with around the world. The framework of the Barometer is built on three cornerstones: “Measure, Share, and Improve”. Through measuring the

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quality of diabetes care and sharing this data with each other, improvements can be made.^[1]

CDB aims to improve patient outcomes by serving as a platform for stakeholders – medical professionals, policymakers, international organizations, and the healthcare industry – to share local diabetes data and good practices in diabetes care. The purpose is to inspire all stakeholders by providing transparency on quality of care and patient outcomes as well as the opportunity to benchmark their performance against the best-performing diabetes healthcare providers worldwide. An approach that has been successful in reducing cancer-related mortality rates over the past 40 years.^[1]

The bulk of the data for the CDB comes from published studies and diabetes registries. Internationally recognized bodies have been instrumental in supplying diabetes data for the initiative. In particular, the International Diabetes Federation (IDF) has been very cooperative in sharing data, especially related to diabetes prevalence and complications. Novo Nordisk representatives worldwide are also gathering the local data related to key diabetes indicators from valid sources.

Measuring and sharing quality of care data drives improvements in diabetes care

CDB provides a platform for countries to share local diabetes data and good practices. The purpose of the website is to serve as a definitive source of information on diabetes care and facilitate knowledge sharing between key stakeholders around the world. Thereby, disseminating improved practices of care from country to country. The CDB doctrine is that ‘only when outcomes are measured and shared can improvements be made’.^[1]

CDB is conceptualized as a framework that can help change diabetes. Its three cornerstones are “Measure, Share, and Improve”:



MEASURE the quality of diabetes care through patient outcomes and care processes

SHARE data on the quality of diabetes care and good practices with all relevant stakeholders

IMPROVE the quality of diabetes care by identifying and actively spreading good practices in diabetes care and inspire others to adopt and follow best practice examples

CDB good practices from other countries

Quality indicators for improving diabetes care in Italy

Few healthcare systems methodically monitor the quality of diabetes care delivered. Subsequently opportunities for systematically improving care for people with diabetes are overlooked. Italy stands out as an exception. The Associazione Medici Diabetologi (AMD) has demonstrated how continuous quality improvement efforts implemented as a large-scale initiative can generate a positive impact on the quality of diabetes care delivered.^[2]

The project documented that the quality of diabetes care could be improved by sharing data on standardized process and outcomes indicators. Over the past few years the number of participating clinics has reached 251, making this a national undertaking that embraces every region in the country and includes almost one-fifth of the population with diabetes in Italy.

A specialized software package enables individual clinics to compare their own process and intermediate outcome indicators against the results of other participating clinics. It also facilitates benchmarking where data from participating clinics is analyzed and published in an annual report, the AMD Annals.

The AMD has three important principles for the work on quality improvement:

1. Anonymity – individual clinics can only see how they perform versus the group of participating clinics.
2. Realistic standards – the clinics are benchmarked against the 25% best-performing clinics and not against the targets set out in guidelines. Comparing to what the best-performing clinics are capable of realizing in daily practice means that goals by definition are within reach.
3. Integrated data collection – AMD Annals indicator data are automatically collected from the electronic medical record systems, requiring no additional effort from the participating clinics.

The quality of care is measured including both process indicators and outcomes measures. Process indicators

include the frequency of tests (e.g., HbA1c, blood lipids, blood pressure, renal function, and feet examination) and are expressed as percentages of patients tested at least once in 12 months. Outcomes measures include the actual values of the tests expressed as the mean and the percentage of patients reaching the recommended levels.

The data reported in the 2011 AMD Annals covered 439,748 patients. The AMD case has proven that continuous monitoring not only helps predict the risk of diabetes-related complications, but is also successful in improving the quality of care delivered.

Establishing CDB in Algeria^[1]

CDB in Algeria is an example of implementing all elements of a diabetes quality monitoring system from the beginning. Although a lot of money is put into diabetes care in Algeria there is no clear evaluation of what works, what does not work and how patients are doing. Thus, there is a great need for increased transparency on quality of diabetes care and patient outcomes. The initiative is also based on experience from other countries such as Italy showing that when starting standardized measuring and sharing of data, the result is an improvement in quality of care and patient outcomes.

Relating to the MSI framework the project can be described in the following way:

- Measure – All diabetes centers in scope are provided with automats, computers, and software to enable structured collection of diabetes care data. A total of 24,000 patients to be followed in 30 diabetes centers from 2014.
- Share – Data and good practices of diabetes treatment will be shared between participating clinics at national level and within regional networks. The method used is similar to the Italian Barometer.
- Improve – Based on increased transparency on quality of care across clinics and identification of good practice diabetes care the overall aim is to improve treatment and patient outcomes

The Ministry of Health has declared that the project will be expanded to all diabetes centers and patients (national diabetes centers) if the pilot phase (2012–2017) is successful. This is truly a strong commitment with the great perspective of improving quality of care for all diabetes patients across the country.

Ambitions and next steps for CDB in India and beyond

CDB in India is a Novo Nordisk Education Foundation (NNEF) initiative, which actively supports state governments to collect information of the quality of diabetes care, measure outcomes of diabetes-related interventions, and

share knowledge on practical solutions. The aim of this project is to ensure healthcare professionals, people with diabetes, and politicians among others are educated on the burden of diabetes in order to identify and implement realistic and sustainable strategies aimed at improving the status of diabetes care in the pilot districts.^[3-5]

In the long run, the data collected through the CDB will allow for a better understanding and potentially an ability to change the trend of the diabetes pandemic in India. This initiative is aimed at driving improvement of diabetes care in order to improve the quality of life for people with diabetes in India and reduce the economic burden on healthcare systems and society. Currently the CDB in India is implemented in five states (Goa, Bihar, Gujarat, Puducherry, and Andhra Pradesh) and is planned to be expanded to five additional states in the next 5 years. Although all the programs share common elements, there is a constant effort to ensure the project is tailored to meet the local health needs of the state, including the local needs of people with diabetes, local healthcare professionals, and local policy makers.^[3-5]

Globally, and in disease areas beyond diabetes, registry solutions are becoming increasingly important as they allow for the collection and monitoring of both long-term outcome indicators (HbA1c, blood pressure, lipids, etc.) and short-term process indicators (baseline risk factor testing, frequency and sensitivity of complications screening, etc.). These solutions offer benefits to people with diabetes, healthcare professionals, and governments.

One of the ambitions for the CDB initiatives in India going forward is to further improve data collection through increased use of registry solutions. Collection and sharing of data as well as best practices in diabetes care within and across states would enable more transparency on the current state of quality of care and patient outcomes. Based on this, progress can be monitored and the adoption of better practices can be promoted. Currently interactive mediums, including online data access platforms are being implemented to ensure access to available information. These innovative communication possibilities allow for benchmarking of the quality of care. Moreover, making the data available to the physician at the local level (PHCs) would help in augmenting the patient engagement plans.

Additionally, implementing regional and local registries has had a major impact on reducing mortality rates over the past 40 years within other chronic diseases and possesses many possibilities for diabetes.

Establishing National Diabetes Registries (NDRs) are very relevant in middle income countries where diabetes data collection is limited and the current situation is not well understood. In this situation, collecting relevant data in a systematic system such as a registry allows for evidence-based decision making. Novo Nordisk has global experience in developing and facilitating implementation of diabetes registries and in close collaboration with partners we have implemented systems in many parts of the world through our CDB initiatives.

Currently Novo Nordisk is working with the Global Diabetes Alliance to implement a new and innovative information technology solution called Global Registry and Surveillance System for Diabetes (GRAND) in a pilot site in Colombia. This project aims to:

- Provide leadership in designing and establishing a multinational diabetes registry and surveillance system
- Promote international collaboration
- Capitalize on existing registries, or facilitate development of new registries
- Adopt a pragmatic and comprehensive approach to data collection
- Create and ensure standards and principles for registry data collection and use.

As there is a general lack of population-based data, at a local, regional or national level in Colombia and hospital-based data is limited and carries potential bias, the GRAND system can help to fill this gap by quantifying the diabetes burden and facilitate understanding of determinants of the disease from a population-based perspective. Diabetes surveillance is important in

Colombia in order to establish a baseline from which clinical outcome progress can be measured and trends monitored in care processes, risk factors, indicators, and complications over time. A sentinel surveillance system, like GRAND, provides an alternative to population-based surveillance for the collection and analysis of individual patient-level information and more limited monitoring of health outcomes trends. Additionally, if the selection of sites/institutions is carefully designed, estimates can be made of the population incidence of the event of interest without the need to survey the entire population.^[1]

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