

Carolina Monteiro  
Observatory of Medicinal and Health Products  
INFARMED - National Authority of Medicines and Health Products, I.P.

## BACKGROUND

Diabetes is a global chronic disease affecting people worldwide and Portugal is no exception registering a progressive growth. Data on prevalence from the National Inquiry of Health indicate a rate of 4,7% in 1999 and 6,7% in 2006.

The utilisation of medical devices (MDs) is a common daily practice among diabetic patients and its quantification promises usefulness in describing the disease's evolution at national and regional levels.

## OBJECTIVES

- Assess the changes in utilisation of MDs designed to the self-surveillance of metabolic control by the diabetic population;
- Determine differences of utilisation between regions of Portugal Mainland;
- Analyse the possibility of establishing a unit measure reflecting an 'average daily utilisation' of the MDs used to determine glycaemia.

## RESULTS

Figure 1 - Evolution of the utilisation of MDs in Number of Packages

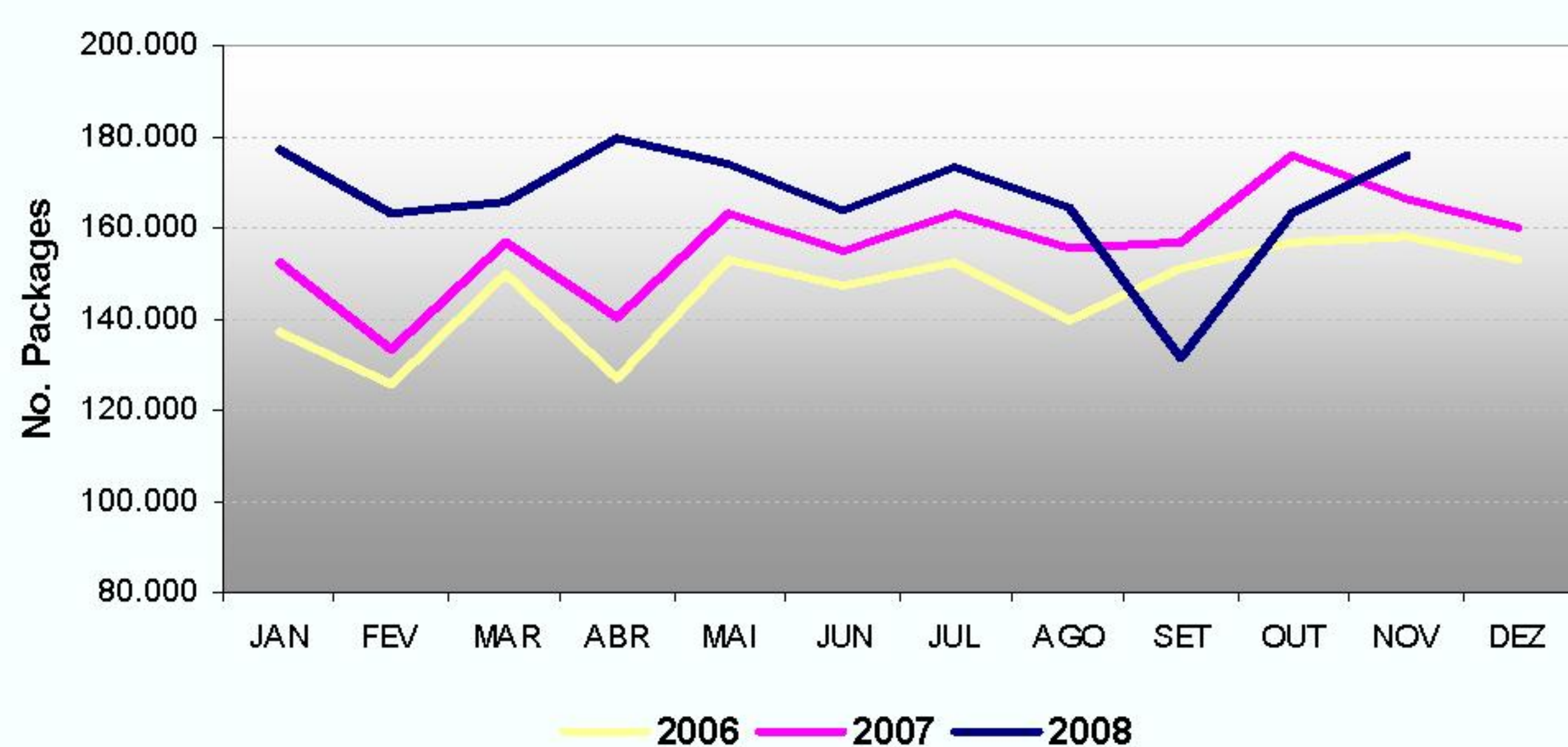
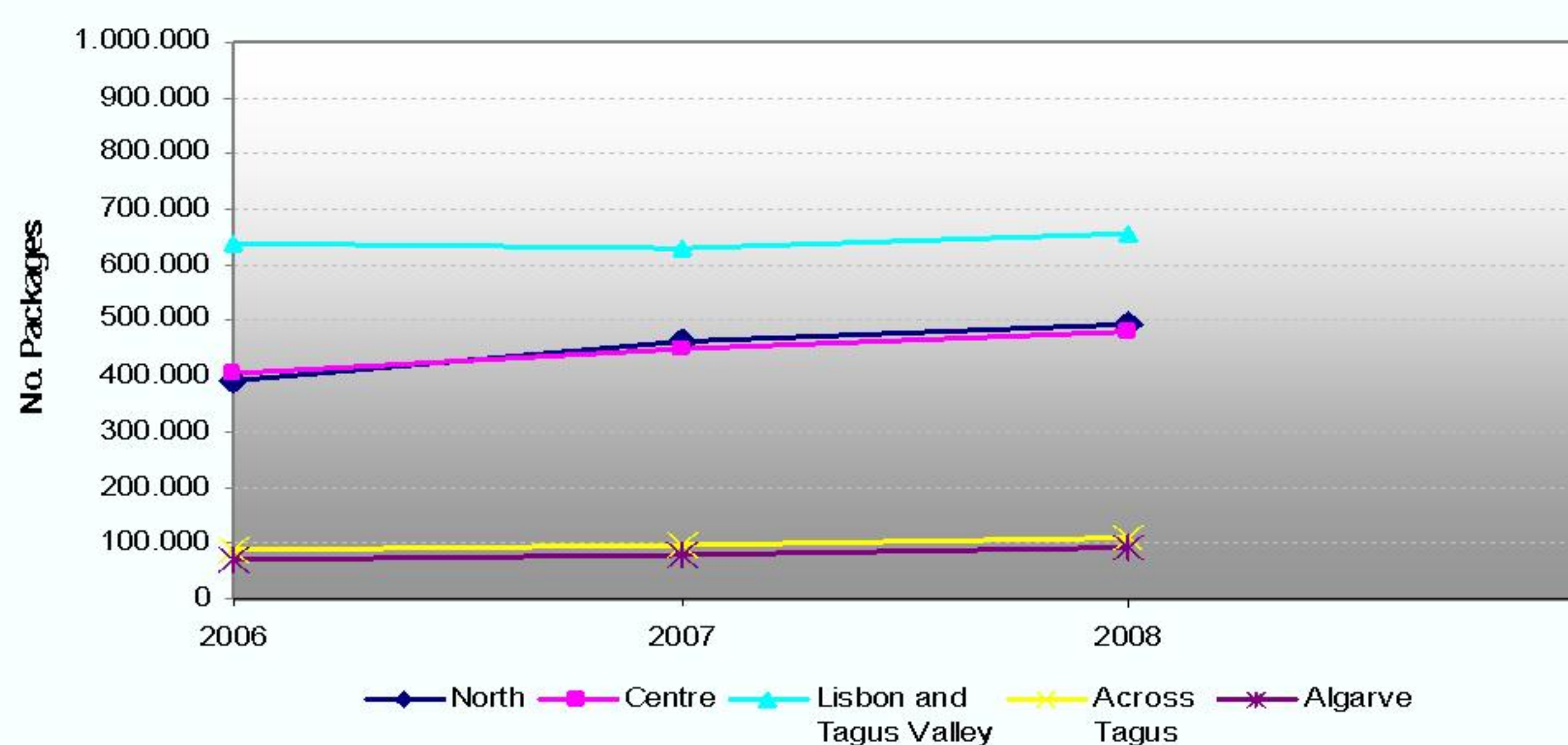


Table 1 - Evolution of the utilisation of MDs in Global Expense and NHS Expense

(Jan. - Nov.)	2006	2007	2008
<b>Global Expense</b>	35.661.555	38.646.679	41.041.986
<b>NHS Expense</b>	31.554.774	33.970.590	35.144.375

Unit: EUR

Figure 2 - Evolution of the regional utilisation of MDs in number of Packages



## CONCLUSIONS

The *PNPCD* is a plan of Public Health, existing in Portugal since the seventies. Access to Self Monitored Blood Glucose (SMBG) has provided, to almost all diabetic patients, a simple and portable method for periodic and repeated measurement of blood glucose in the ambulatory care setting.

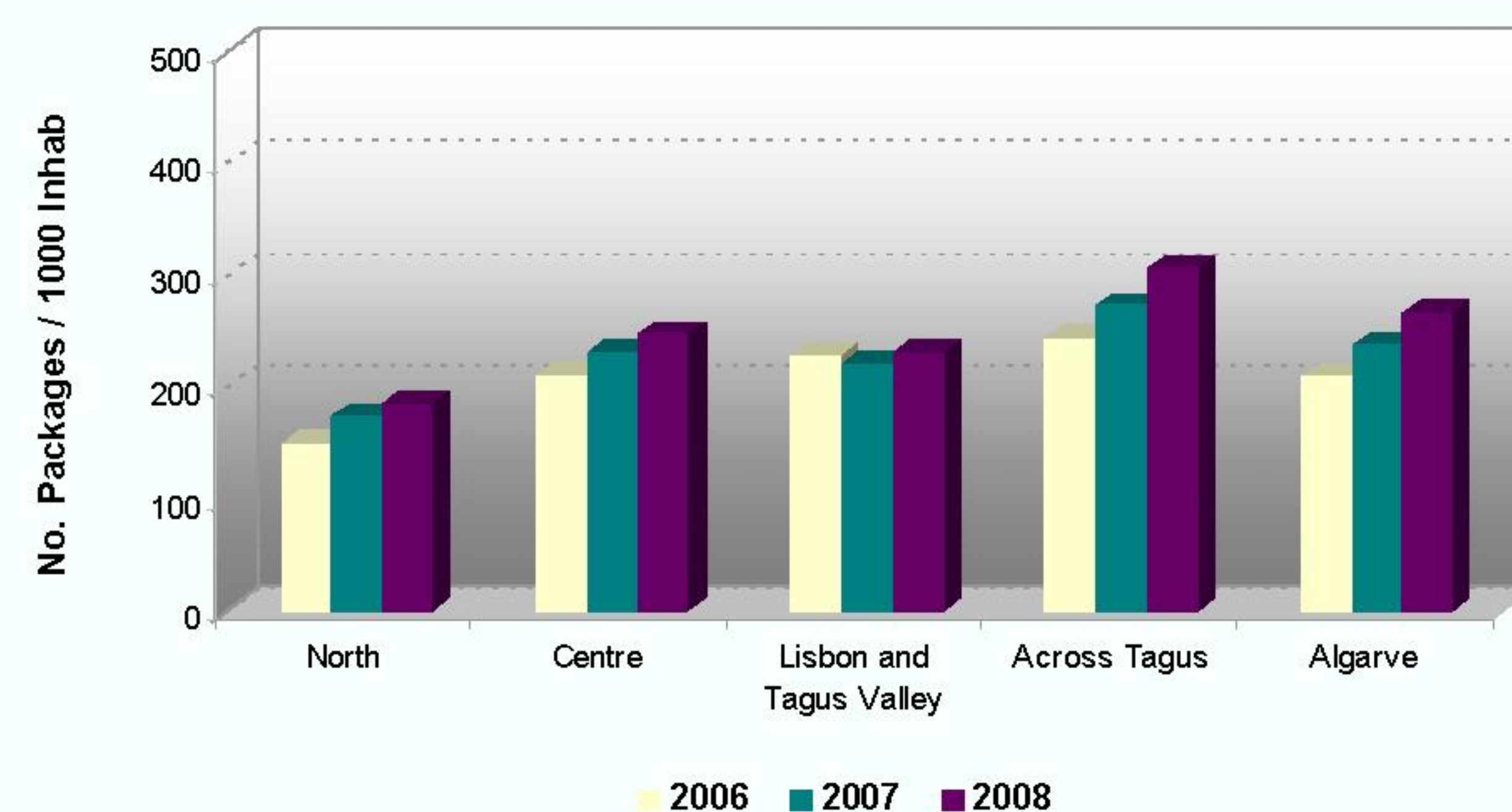
Achieving normoglycaemia is dependent on adequate SMBG. The frequency and timing are different according to the type of diabetes, each individual's needs, meals, exercise and changing of therapy. Patients with type 1 require testing, at least, three or more times daily. 'Average daily utilisation' is a concept requiring further information generated at the patient level.

Numbers on prevalence and incidence are, however, scarce and measuring the utilisation of these MDs provides a further indicator of the evolution of diabetes.

## METHODS

- Data on consumption of MDs from 2006 to 2008 were collected and analyzed yearly, monthly, nationally and regionally;
- The types of MDs selected were those included in the National Programme for the Prevention and Control of Diabetes (*PNPCD*) for self - monitoring and insulin administration: test strips to determine glycaemia, glycosuria and glycosuria/ketonuria, needles, lancets and syringes;
- Utilisation was expressed in terms of:
  - Number of packages**
  - Global Expense**
  - National Health Service (NHS) Expense**
- The analysis to define an 'average daily utilisation' of MDs used to determine glycaemia was undertaken through the search for scientific consensus and advice of medical expertise.

Figure 3 - Regional asymmetries in MDs utilisation



- A progressive growth on the utilisation of MDs was registered from 2006 to 2008 both nationally and regionally;
- These regions show different patterns of utilisation once that for each thousand inhabitants per region the number of MDs dispensed is different. Across Tagus is the region presenting the highest number. It is also the region where the population is older;
- An 'average daily utilisation' of test strips to measure glycaemia is a concept that is difficult to put into practice since it implies a separation between type 1 diabetes and type 2 diabetes and even so, it is still dependent on individual's needs and goals.

## REFERENCES

- Programa Nacional de Prevenção e Controlo da Diabetes. Protocolo de Colaboração
- National Inquiry of Health
- Koda-Kimble M. A. *et al.* APPLIED THERAPEUTICS - The Clinical Use of Drugs. 8<sup>th</sup> Edition. Ch. 50-12

NO CONFLICT OF INTEREST

e-contact: [carolina.monteiro@infarmed.pt](mailto:carolina.monteiro@infarmed.pt)