

Evaluation of the seasonal vaccine coverage in Portugal: An overview of the last 12 years

Baltazar Nunes, Eleonora Paixão, Maria João Branco

Instituto Nacional de Saúde Dr. Ricardo Jorge, Portugal
Department of Epidemiology

Instituto Nacional de Saúde
Doutor Ricardo Jorge



BACKGROUND

Influenza is an infectious disease responsible for seasonal epidemics affecting population worldwide. The vaccine is the main method for preventing flu and its complications. In this context the monitoring the influenza vaccine coverage (IVC), mainly in the risk groups is of the utmost importance. For the past 12 years, the Department of Epidemiology of the National Institute of Health estimated IVC in Portugal mainland. This study analyzes the evolution of the seasonal vaccine coverage from season 1998-1999 to 2009-2010.

METHODS

Between 1999 and 2010 eleven cross-sectional descriptive studies were conducted in the context of the ECOS sample (Em Casa Observamos Saúde; At Home we observe Health), a panel of households from mainland Portugal selected using a random digit dialling procedure. During this period the panel sample was renewed 4 times (1998, 2002, 2006 and 2009). Until 2008 the sample was selected from the landline phone directive, in 2009 a dual-frame (landline and mobile phone) sample was constitute in order to enhance the sample representativeness. The effective sample size varied from 2206 (2005-2006) to 4167 (2001-2002).

The data was collected by a the same questionnaire applied using Computer Aided Telephone Interviewing (CATI). In each household the respondent was an element with ≥ 18 years, that gave information about his vaccination state and of the other household members.

IVC estimates were weighted by number of households per region, coverage of landline and mobile pones in Portugal (for the 2009 sample), and post-stratified according to gender and age population mainland distribution.

Confidence intervals at 95% were computed using the Taylor series method to estimate the estimate standard error. All results were obtained using the program Complex Samples of the package IBM SPSS 18.0.

RESULTS

In the general population the IVC increased from **14.2%** [CI95%: 11.6-16.8], in 1998-1999 to **20.4%** [CI95%: 18.3-22.6] in the last season 2009-2010. Considering the individuals with 65 or more years of age, the IVC presented a relative increased of **67%** from 1998-1999 (**31.3%** [CI95%: 26.1-36.9]) to the last season 2009-2010 (**52.2%** [CI95%: 45.6-58.7]) (Figure 1).

This study was also able to monitor the IVC in groups of the population with chronic diseases (diabetes and hypertension). Results showed also an high relative increase of **82%** and **145%** respectively for the individuals that declared to suffer from diabetes and hypertension, respectively (Figure 2).

Figure 1: Evolution of the seasonal influenza vaccine coverage, by age group

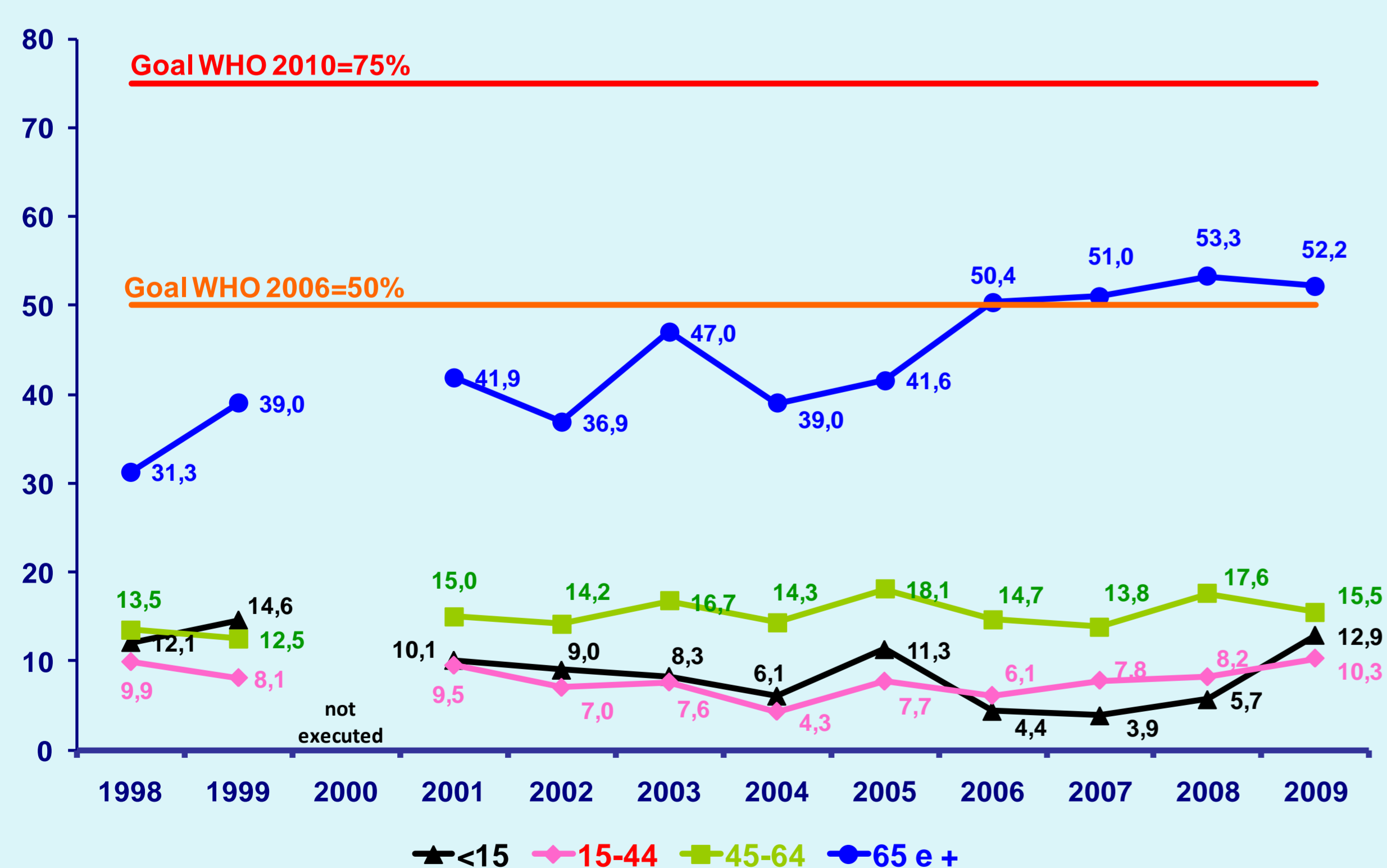
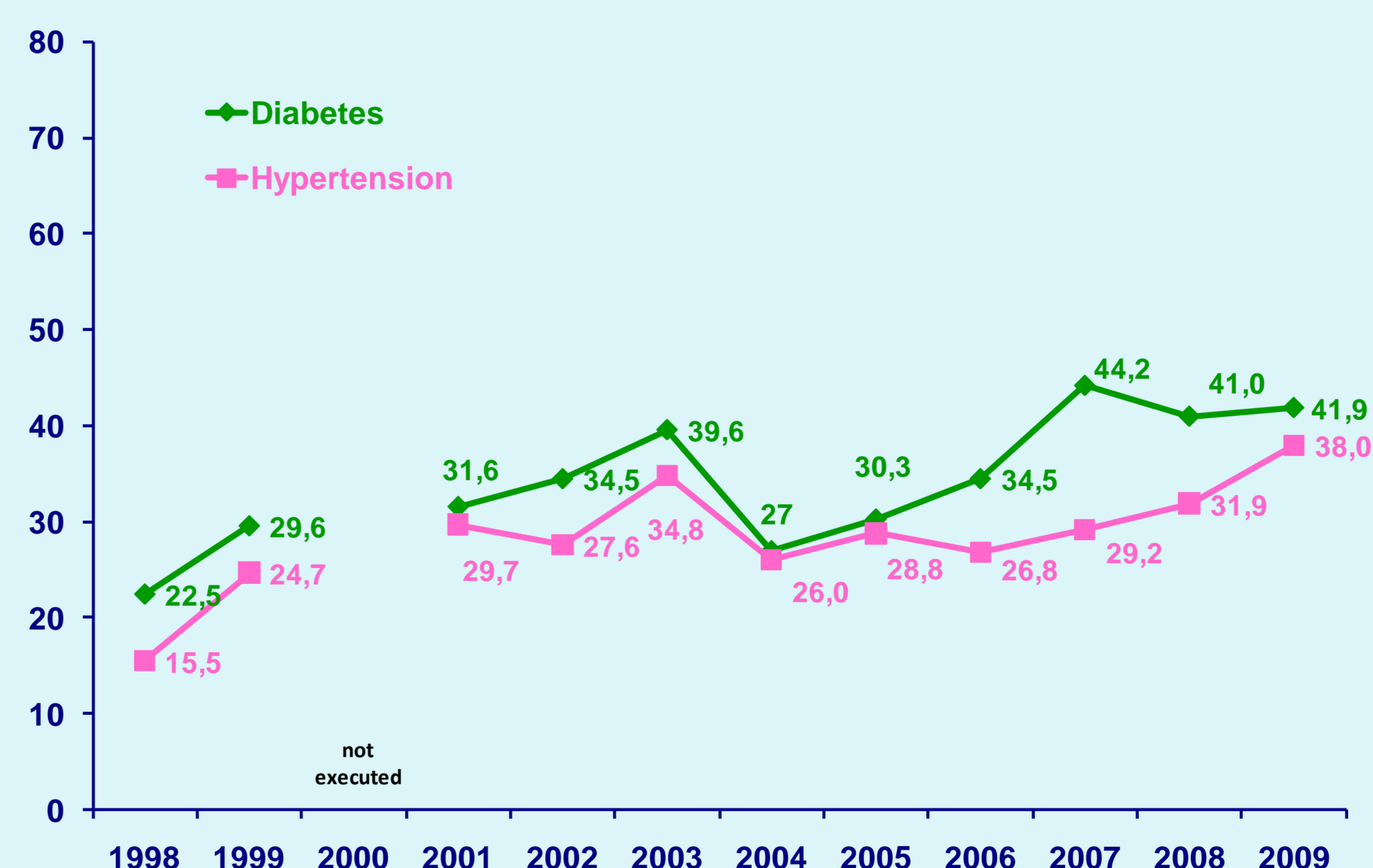


Figure 2: Evolution of the seasonal influenza vaccine coverage patients with diabetes and hypertension



CONCLUSIONS

Results showed that **IVC presented an relevant increased in the last 12 years in Portugal, namely in the elderly, individuals with diabetes and those with hypertension.** The IVC WHO goal for 2006 in the elderly population was achieved, on the other side the WHO goal for 2010 of 75% will be very difficult to fulfil given that the IVC in 2009 is estimated at 52.2%.

In this circumstances it is **recommended to maintain and increase seasonal influenza vaccination in the elderly and in all the influenza risk groups.**