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INTRODUCTION

Cardiovascular disease is the first cause of death worldwide, and its main associated factor is hypertension (HT).^{1,2} That is why HT is a very important public health issue, and a frequent reason for primary care visits. In Spain, prevalence of HT is around 15%-20% in population of 15 years old or over, and it increases until 45%-48% in population of 65 years old or over. HT is estimated to account for 5.6%-7.5% of the total health spending in Spain.³

The **objective** of this study is **to detect areas for improvement in the management of hypertensive patients** within the Spanish National Health System (SNHS).

METHODS

In a first stage, a group of experts in medicine or health economics reached a **consensus on the ideal management** of hypertensive patients within the primary care in the SNHS, based on scientific literature and their own experience.

After that, a **web-site tool** was launched in 2015, containing a questionnaire about the key items related to HT management. This tool was available to primary care centres, whose managers were able to complete the questionnaire, and eventually to compare their answers (i.e. their own approach to hypertensive patients) to three different scenarios:

- **Control scenario:** that is, the approach consensual.
- **National scenario:** statistics from participating primary care centres.
- **Regional scenario:** results from centres from the same region.

Questionnaire items were organized into **five areas**: (1) information systems, (2) diagnostic tests, (3) organizational aspects, (4) resource consumption, and (5) patients and healthcare professionals training.

After any intervention implemented by primary care centres, a before-after comparison was available, also in economic terms.

Finally, we calculated an **adherence score**, based on answers from all participating centres, taking control scenario as reference.

RESULTS

A total of **35 centres participated in the pilot project** at national level.

(1) Information systems

Most of primary care centres had access to secondary care analytic data (97.1%), but only two out of three had a shared health record between primary and secondary care (65.7%).

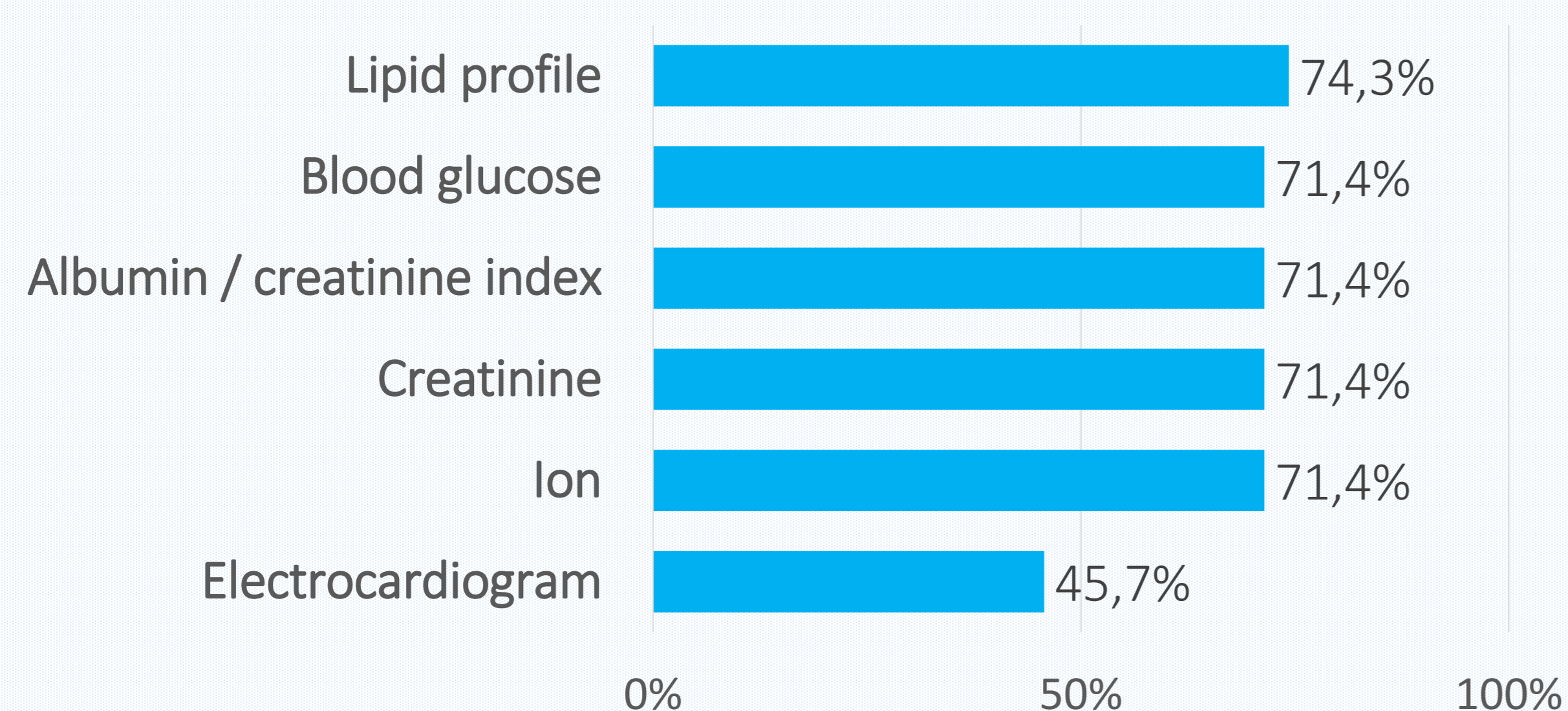
(2) Diagnostic tests

In general terms, around half of centres:

- followed a Preventive Care Program (57.1%)
- had easy access to ambulatory monitoring of HT (45.7%)
- performed cardiovascular risk global assessment of the patients (40.0%)

All centres regularly performed analytic/diagnostic tests, but with different frequency. **Figure 1** shows adherence of centres to ideal approach.

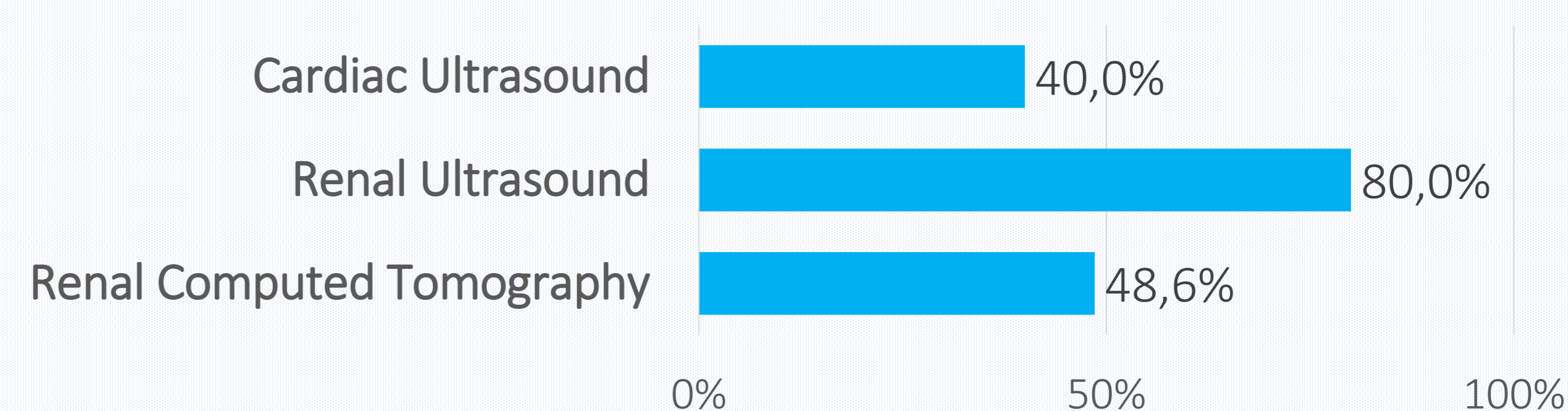
Figure 1: Adherence of centres to ideal tests frequency*



*Ideal frequency for all tests is "every 12 months", except for electrocardiogram, which is "more than 12 months".

Easy access to complementary tests was variable (**Figure 2**).

Figure 2: Easy access to complementary tests



(3) Organizational aspects

Most of centres (82.9%) were not provided by any clinical expert in HT or cardiovascular risk.

(4) Resource consumption

Control visits 3-6 weeks after the start of treatment were accomplished by 40% of centres. Most of centres (82.9%) referred to secondary care less than 10% of patients.

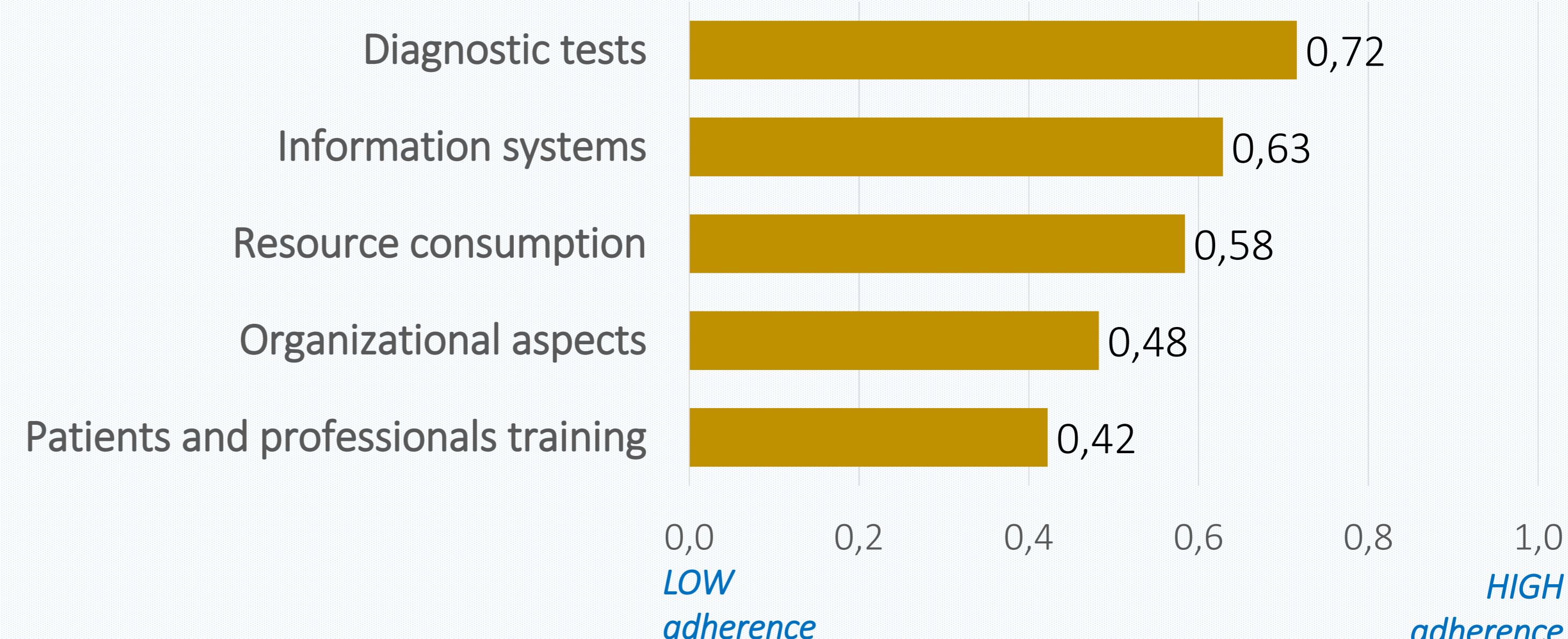
(5) Patients and healthcare professionals training

While 88.6% of centres provided cardiovascular training to health professionals, many of them did not provide training to patients about health education activities (60%), nor workshops on diet (68.6%), nor physical activity workshops (71.4%).

ADHERENCE SCORE

Adherence to each area of control scenario is shown in **Figure 3**.

Figure 3: Adherence score by areas



CONCLUSIONS

The SNHS has undergone important advances in recent years. However, in terms of clinical management and prevention, there is scope for improving efficiency, which is the future challenge in primary care.

This pilot study could serve as a starting point for a larger study, that may help clinicians, health managers and decision-makers get the best possible clinical results, while getting public budget saving from the efficient use of resources.

LIMITATIONS

The two main limitations of this study are related to the sample size, which was low and not representative of the primary care centres in Spain. Another limitation is the influence of centres' budget, as this variable has not been controlled.

REFERENCES

1. Lozano R, Naghavi M, Foreman K, et al. Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet*. 2012;380:2095-2128.
2. Lim SS, Vos T, Flaxman AD, Danaei G, et al. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet*. 2012;380:2224-60.
3. Saez M, Barceló MA. Coste de la hipertensión arterial en España. *Hipertens Riesgo Vasc*. 2012;29:145-51.