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ECONOMIC IMPACT OF VARYING STRATEGIES FOR DIAGNOSING HYPERTENSION IN THE PUBLIC HEALTH SYSTEM

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Background: Hypertension, leading preventable cause of morbidity and mortality, requires blood pressure (BP) measurement using adequate technique, cutoff points, and classification.

Objectives: To evaluate costs and effectiveness of hypertension diagnosis in the Brazilian Public Health System (PHS).

Methods: Decision-analytic model with two strategies for diagnosing hypertension; the usual care was derived from a nationwide cross-sectional study, performed in a random sample of 50 centers, supported by the Brazilian Ministry of Health. It addressed BP measurement, availability of properly sized cuff and calibrated sphygmomanometers, and use of correct cutoff points to detect hypertension. The guideline-recommended strategy was defined as adherence to all recommendations. For each inadequacy in measurement and classification of hypertension, a 6% reduction in diagnostic effectivenesswas estimated.

Results: Data on BP measurement and classification were obtained from 100 physicians and 93 nurses (Table 1). Correct classification of hypertension status was achieved in 82.3% of patients with the guideline-recommended strategy *vs.* 77.2% in the usual care strategy. Incremental cost-effectiveness ratio (ICER) was R$ 51.70 per correct diagnosis. In sensitivity analysis, cost of office visits and frequency of visits and measurements had the greatest impact on results, but even with wide parameter variation, ICER remained below R$ 100 per correct diagnosis.

Conclusions: From the perspective of the Brazilian PHS, the modelled guideline-recommended strategy for diagnosis of hypertension yielded a very attractive cost per correct diagnosis. Widespread implementation of these simple measures would improve quality of care at affordable prices, and should be considered by decision-makers.

Table 1. Frequency of guideline-recommended conducts encountered in the usual care strategy

Guideline-recommended items	Frequency
BP measured in every visit	99.5%
Cuff size available – eutrophic adult	72.3%
Cuff size available – obese adult	12.4%
Annual calibration of sphygmomanometer	69.9%
HTN cutoff used ≥ 140/90 mmHg	74.3%
HTN defined with 2 measurements in at least 2 visits	85.9%

BP = blood pressure; HTN = hypertension