



# Payment Status Influences Hypertension Control Rates in a Family Medicine Clinic

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## INTRODUCTION

- Hypertension is the most significant risk factor for cardiovascular disease in the United States.
- One important factor in the management of hypertension is adherence to prescribed regimens.
- There are several barriers to adherence, including patient knowledge and participation, dosing schedules, adverse events, and cost of medications.
- With rising costs of medications, a patient's ability to pay is a constant barrier to adherence with their prescribed therapies.

## OBJECTIVES

- The primary objective of this study is to evaluate whether medication payment status (including Medicaid, private insurance, or self pay) influences blood pressure control rates in a family medicine clinic.
- Secondary objectives of this study are to evaluate the impact of payment status on stage of hypertension as well as on blood pressure values.

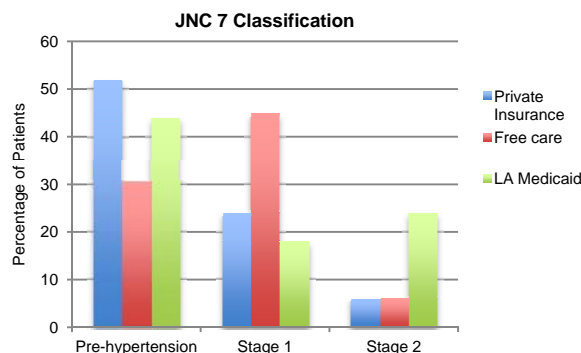
## METHODS

- A retrospective chart review was conducted using the Department of Family Medicine and Comprehensive Care's electronic medical records.
- Inclusion criteria included a diagnosis of benign essential hypertension (ICD-9 401.1) and seen in clinic between January 1, 2011 and July 1, 2011.
- Patients were excluded if there was not at least 1 documented blood pressure value during the specified time period.
- A convenience sample of 150 patients was selected with 50 patients in each group (Louisiana Medicaid, private insurance, and self pay).
- JNC 7 guidelines were used to classify blood pressure stages and goals.
- Data collected consist of the following: age, payment status, and lowest recorded blood pressure value.
- The patient's JNC 7 blood pressure goal and classification was also recorded.
- Dichotomous variables were compared using a Chi-square contingency table. Statistical significance was set at  $P < 0.05$ .
- A post-hoc analysis was conducted with individual pairs using the calculated critical value of  $P < 0.017$  indicating statistical significance.
- Continuous variables were compared using an ANOVA. Statistical significance was set at  $P < 0.05$ .

## RESULTS

Baseline Characteristics			
	Private Insurance N=50	Self Pay N=50	Louisiana Medicaid N=50
Age (years)*	58.72	51.00	52.70
Lowest Systolic BP (mmHg)*	132.28	135.02	137.04
Lowest Diastolic BP (mmHg)*	76.90	81.92	83.36
Patient at BP goal	N=33 (66.00%)	N=19 (38.77%)	N=22 (44.00%)

\*Numbers reported are means

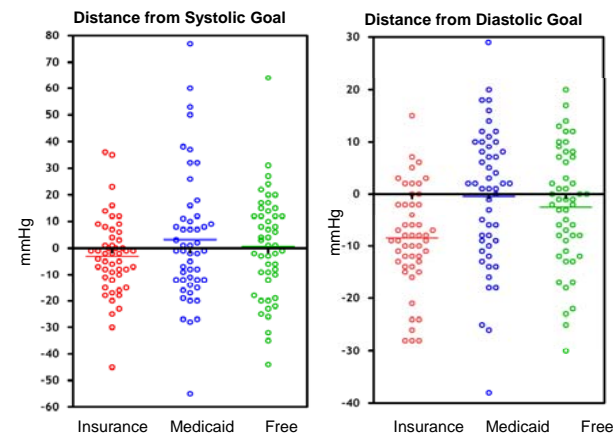


A chi square was performed to determine significance between groups (self pay, insurance, Medicaid). A P value of 0.0157 was obtained indicating statistical significance.

A post-hoc analysis was performed on the individual pairs to determine where the difference stood. Statistical significance was indicated by  $P < 0.017$ .

### Post-hoc Analysis

Insurance vs Self Pay	P = 0.006
Insurance vs Medicaid	P = 0.02
Self Pay vs Medicaid	P = 0.59



### ANOVA

- No significant differences were found in systolic blood pressure.
- There was a significant difference found in diastolic blood pressure with **insurance vs free care** and **insurance vs Medicaid**. No significant difference was found in free care vs Medicaid.

## CONCLUSION

- This study demonstrates the importance of determining patient payment status when prescribing medications.
- It appears the method of payment and the influence on blood pressure control is probably due to a patient's inability to pay for prescriptions.
- To improve compliance, prescribers should keep in mind a patient's ability to pay before prescribing specific medications.
- Future studies may need to be conducted with larger sample sizes to understand the implications of payment status on hypertension control.

## REFERENCES

- National Heart, Lung, and Blood Institute. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7). 2003.
- Piette JD, Heisler M, Wagner TH. Problems paying out of pocket medication costs among older adults with diabetes mellitus. Diabetes Care. 2004;27(2):384-391.

Disclosure: Authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.