

Provider Performance Improvement Championship in Hypertensive Blood Pressure Control

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Finger Lakes Health Systems Agency (FLHSA) Performance Improvement Consultant Program

Through community input and data analysis, the FLHSA identifies the most pressing health needs facing the region, then brings together hospitals, insurers, physicians, consumers and other partners to develop solutions. Over the past decade, for example, agency-led initiatives have helped to reduce regional lead poisoning by 85 percent, and in 2012, the agency was awarded the largest Medicare and Medicaid innovation grant in the country.

In late 2011, the FLHSA, in collaboration with the Rochester Business Alliance, arranged for the training of eight providers and pharmacists from two of Rochester's three major healthcare systems. The training, conducted by the National Resource Center for Academic Detailing (NARCAD), included active listening, identifying and responding to barriers to change, and respectful communication. The intent of the training was to develop "consultants" who would facilitate blood pressure control performance improvement (PI) efforts throughout the nine county Finger Lakes, NY region.

Unity Medical Group Performance Improvement Champions Program

Unity Medical Group's (UMG's) three provider (MD, DO, & PA) consultants rotated through the medical group's fourteen-practice network throughout 2012. It quickly became apparent that effectiveness was lacking – practice conversations were only happening every few months, and because advocacy for blood pressure control efforts was coming from "outside" providers, internal engagement/ownership wasn't developing.

In 2013, UMG kicked off a program (co-led by the clinical informatics & performance improvement manager and provider consultants) where, upon the identification of a provider "champion", every primary care practice that cared for adult patients was encouraged to participate in a monthly committee meeting. While blood pressure control has remained the consistent topic, National Committee for Quality Assurance Patient-Centered Medical Home guidelines, dashboard metrics, and how to leverage an appointment with care opportunities report have also been mainstays of the performance improvement champions (PIC) program. In addition to committee meeting participation, champions are expected to facilitate team-based (both clinical & non-clinical) conversations with their practice about committee happenings, workflow redesign/implementation, etc.

Comparative Analysis Using Community High Blood Pressure Registry Data

The FLHSA maintains the regional high blood pressure registry, which includes readings for 180,000+ hypertensive patients from 95 primary care (ranging from small private to large, system-owned) practices throughout the region.

Access to this database has permitted a December 2014 vs. June 2015 analysis evaluating the effectiveness of the PIC program on blood pressure control rates and on mean systolic and diastolic blood pressure vs. non-PIC practices.

Methods

The analysis, cross-sectional in design, not only compared control in performance improvement champion (PIC) vs. non-PIC practices, but also between highly engaged vs. lesser engaged PIC practices. PIC engagement is defined by rates of participation in monthly committee meetings and facilitating conversations at participating practices. A total score for the time period April 2014 – June 2015 was calculated. PIC practices with a total score in the lowest quartile were assigned a PIC score of 1 (n=3) and are considered to have adopted the PIC program "in name only." All other PIC practices (n=11) were assigned a PIC score of 2. Registry practices not participating in the PIC program (n=81) were assigned a PIC score of 0. The patient is the unit of evaluation for the analysis. As such, each patient in the registry was assigned the PIC score of the practice with which (s)he is associated. Patients associated with a non-PIC practice serve as the control group.

PIC Level	No. of Practices	No. of Patients
0	81	159,491
1	3	4,912
2	11	14,943

Chi-square and one-way ANOVA tests were used to estimate unadjusted blood pressure control rates and the distribution of patient characteristics by PIC level. Multivariate general linear models (MANOVA), logistic and linear regression were used to determine the significance and estimate the effect size of PIC on blood pressure control rates, and mean systolic and diastolic blood pressure. A p-value of .05 was used to establish significance. All statistical tests were conducted in SPSS.

Principal Findings

Blood pressure control rates differed between PIC and non-PIC practices and between PIC levels at June 2014 and December 2015. Unadjusted results indicate that blood pressure control rates increase significantly with increasing levels of PIC engagement. The pattern reflected in the June 2015 data is consistent with December 2014 data and suggests increasing control rates in PIC practices over time. After controlling for the effect of different SES levels and racial/ethnic compositions across PIC levels, hypertensive patients in PIC practices were 35.1% more likely to have controlled blood pressure than hypertensive patients associated with a non-PIC practice.

Rate of no reading: The HEDIS 2015 control definition categorizes hypertensive patients without a blood pressure reading in the last 12 months as uncontrolled. All else equal, reducing the number of patients without a current blood pressure reading increases control rates. PIC practices demonstrate significantly lower no-read rates (5.9%) than non-PIC practices (11.0%). Moreover, within PIC practices, the no current read rate for Level 2 practices (5.9%) is nearly one-half that of Level 1 practices (10.0%). Accordingly, closer monitoring of hypertensive patients appears to be a contributing factor in higher control rates among PIC practices, particularly Level 2 practices.

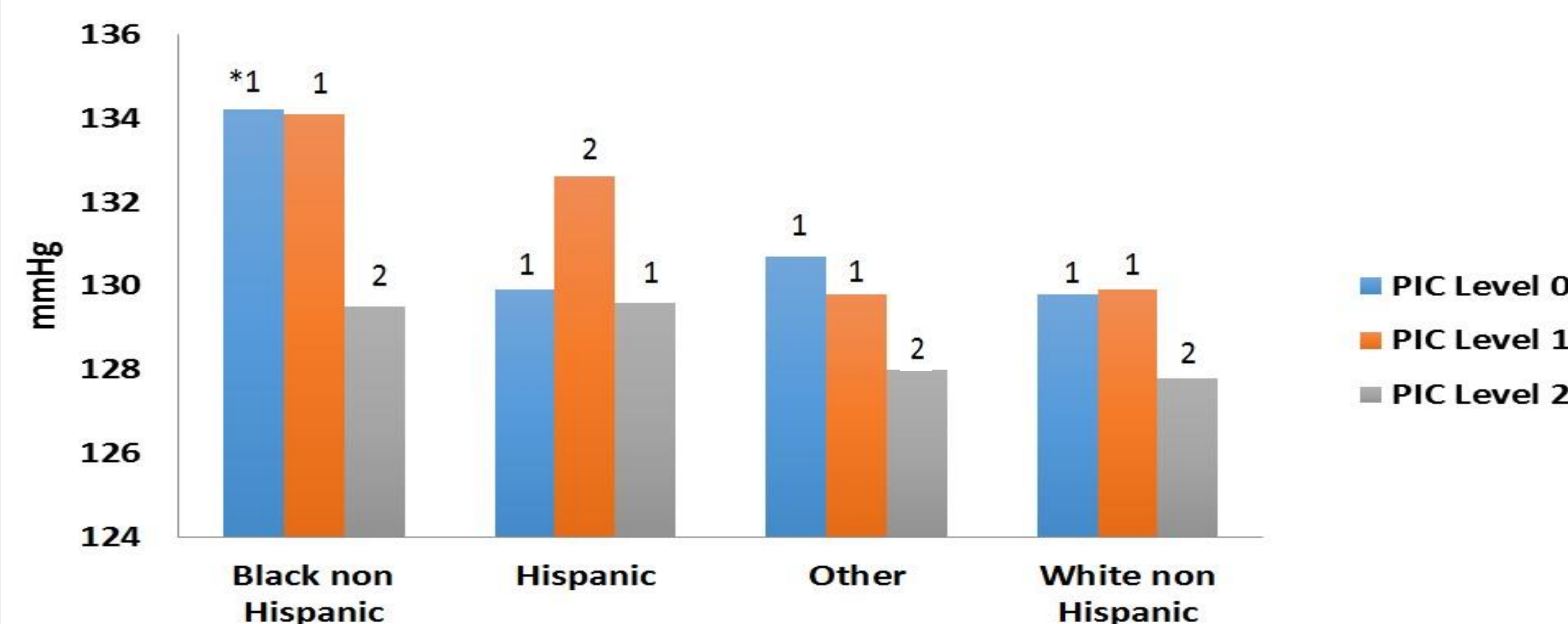
Mean systolic blood pressure: In addition to control rates, we evaluated the effect of PICs on mean systolic and diastolic blood pressure as of December 2015. Unadjusted results demonstrate a small, significant difference in mean systolic blood pressure in PIC and non-PIC patients. Mean systolic blood pressure of 129.1 mmHg and 130.6 mmHg was reported in PIC and non-PIC patients, respectively. A significant difference in diastolic blood pressure was not observed between PIC and non-PIC practices at December 2015.

Principal Findings

BP Control Status (HEDIS 2015) by PIC Level

BP Status	Non-PIC		PIC Level 1		PIC Level 2		Total	
	Dec-2014	Jun-2015	Dec-2014	Jun-2015	Dec-2014	Jun-2015	Dec-2014	Jun-2015
Controlled (%)	68.1	68.0	69.9	71.7	77.0	79.2	69.0	69.0
Uncontrolled (%)	31.9	32.0	30.1	28.3	23.0	20.8	31.0	31.0

Estimated Systolic BP Marginal Means



* Different numeric notation (e.g.; 1, 2) within a race category indicates a significant difference in mean systolic blood pressure (p < .05) between PIC levels.

Conclusions

The findings described above substantiate improved blood pressure control and a reduction in mean systolic blood pressure among PIC practices as compared to non-PIC practices. Moreover, the results reported herein occurred within the initial 8 months of PIC program introduction and are incremental to other blood pressure lowering initiatives occurring simultaneously throughout the region. Greater improvement in blood pressure control than in mean systolic or diastolic blood pressure reduction is not surprising given the PIC program's initial focus on blood pressure control. Over time, increased PIC emphasis on mean systolic and diastolic blood pressure reduction is expected to result in further improvement in mean systolic and diastolic blood pressure. A collegial, respectful sharing of unblinded peer comparison data resulted in practice behavior change, improving blood pressure control in at-risk populations.

In addition to detecting a significant difference in control rates and mean systolic blood pressure in PIC and non-PIC practices, the analysis highlights the particularly beneficial effect of the PIC program among Black non-Hispanic patients. Mean systolic blood pressure of Black non-Hispanic patients associated with a PIC practice was 4.7mmHg lower than the mean systolic blood pressure of Black non-Hispanic patients associated with a non-PIC practice. This result suggests PICs may play a pivotal role in reducing disparities in hypertension control and hypertension-related health outcomes.

Implications for Health Quality/Outcomes

With the knowledge that for every 5mm/Hg decrease in systolic BP there is 12% decrease in CVA mortality, 9% decrease in CHD mortality and 7% all cause mortality, optimism is high that new focuses on addressing mean and stage 2 hypertension will be a natural evolution from the success realized through dedicated multi-year efforts to gain and maintain Unity Medical Group control well into the HEDIS 90th percentile.

Acknowledgements

Supported in part by fees added to a subset of discharges from Monroe County, NY hospitals.