A Quality Improvement Project to Implement ASCVD Risk Analysis and Evaluate its Impact on Patient Perception of Risk

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Purpose

The aim of this project was to increase APRN utilization and documentation of ASCVD risk analysis during opportunistic patient encounters and to evaluate the impact of risk scores on both patient perception of risk and patient intent to modify personal risk.

Background

- ASCVD remains the number one cause for mortality in the United States
- Most studies evaluated ASCVD risk tools that only provide category of risk (low medium or high) not a score
- Provider utilization of risk tools is minimal
- Patient understanding of personal ASCVD risk and what can be done to address this risk is limited and often inaccurate
- In 2013, ACC/AHA developed an ASCVD risk tool which utilizes cohorts to provide a numeric risk score along with proposed treatment guidelines

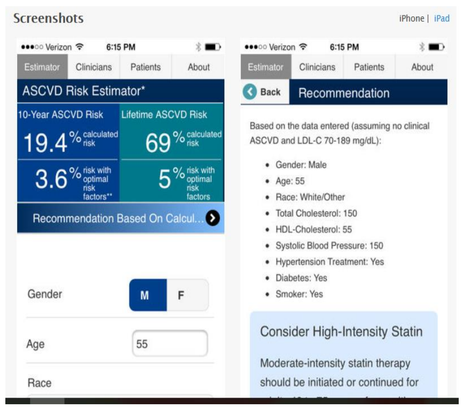
Setting

This quality improvement project was implemented in an industrial/corporate worksite wellness clinic system.

Project Design and Conceptual Framework

- Johns Hopkins Evidence-Based Practice Model
- University of Wisconsin-Madison Accelerated Improvement Model

Methods



Critical Appraisal of Literature

4 Systematic Reviews; RCTs; Clinical Guidelines

Project Design

IRB Approval from USF and Corporation
Patient Survey Development
Accelerated APRN Team Meetings
6 week pre/post chart review

Target Population

Wellness Clinic APRNs
Statin naïve patients aged 40-79

Outcomes Measured

Demographics
Percentage of APRN documented risk scores pre/post
Pt risk estimate pre/post risk analysis
4 Likert scale questions on intent to modify risk pre/post score

Results

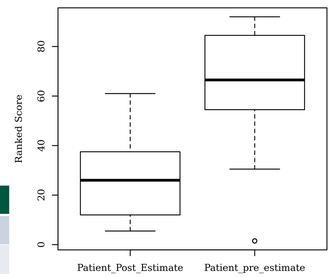
- A total of 490 patient charts met criteria for inclusion.
- Forty-one of 45 patient surveys were complete and used for analysis
- APRN documentation of risk score increased from **1%** to **35%** post-intervention
- Results of **Chi-square** were **significan**t, $\chi^2(1) = 107.62$, $p < .001$, suggesting that the Time (pre or post intervention) and presence of ASCVD score are related

Time	No Score	Score Present
Pre-intervention	291 (251.40)	3 (42.60)
Post-intervention	128 (167.60)	68(28.40)

Note. $\chi^2(1) = 107.62$, $p < .001$. **Items in brackets represent expected cell frequencies**

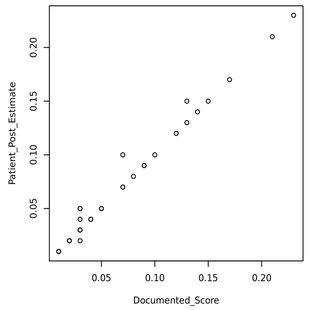
Summary of Demographics

Variable	*M*	*SD*	*n*
Age (40-79)	52.02	7.70	490
Cholesterol	194.88	34.12	490
BMI	32.27	5.96	489
Tobacco Use	No Yes		438 (89%) 52 (11%)
Diabetes	No Yes		439 (90%) 51 (10%)
Hypertension	No Yes		310 (63%) 180 (37%)
Gender	Male Female		416 (95%) 74 (15%)
Ethnicity	White Black Hispanic Asian Other		377 (77%) 79 (16%) 28 (6%) 4 (1%) 2 (0%)



A **Wilcoxon signed rank** test was **significant,** $V = 1015.00$, $p < .001$, indicating that differences between patient pre-estimate and post-estimate were **not due to random variation**. Only 23% of patients guessed their score correctly within 10 points before CPRD. Three patients (7%) underestimated their risk while the remaining overestimated risk.

A **Pearson correlation** analysis was conducted between documented score and patient post-estimate. There was a **significant positive correlation** between these two variables ($r_p = 0.99$, $p < .001$). The correlation coefficient was 0.99 indicating a **large effect size.**



Discussion

- Although provider documentation of 10-year risk for ASCVD increased, there is need for greater utilization of the ASCVD risk tool to initiate the clinician/patient risk discussion (CPRD)
- Provider education on guidelines, utilization of the ASCVD risk tool, and risk level thresholds for recommending statin therapy is key to successful CPRD
- A vast majority of patients (73%) could not accurately predict their risk within 10 points, however, the correlation between actual risk score and patient's perceived risk score after CPRD was significant
- Most patients (93%) overestimated their risk for ASCVD indicating a lack of "optimistic bias" by patients
- The impact of providing a risk score on long term adherence to lifestyle modification and/or statin therapy requires further study
- The Likert response "strongly agree" to the question "will you agree to prescription therapy if indicated" increased from 4.8% to 14.6% after CPRD
- Providers should consider the unintended consequences of telling patients that their risk is actually lower than their perceived risk

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References

Available upon request

USF HEALTH COLLEGE OF NURSING UNIVERSITY OF SOUTH FLORIDA