Structured Utilization of Multiple ACC Clinical Apps at the Point of Care Significantly Improves Quality of Care in Angina Patients: One Year Results from the Florida Cardiovascular Quality Network

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BACKGROUND

In patients with stable ischemic heart disease (SIHD) there is a need for improvement in quality of cardiovascular (CV) care in the out-patient clinic.

The Florida Cardiovascular Quality Network (FCQN) is a prospective quality outcomes registry. The registry was initiated in a number of diverse clinical sites in Florida. The FCQN had IRB oversight and was supported by the Florida Chapter American College of Cardiology (ACC).

A large number of patients with suspected or known SIHD referred for CV evaluation were enrolled in this pilot state-wide quality registry. Providers utilized a mobile platform (iPAD) at the point of care in a systematic protocol application of multiple ACC clinical decision support (CDS) tools. The CDS apps utilized including the following: ACC FOCUS, Seattle Angina Questionnaire (SAQ), and ACC Cardiosmart.

The FCQN is based on the hypothesis that a systematic utilization of multiple CDS tools at the point of care will assist the provider to improve clinical decisions and improve patient quality of care.

OBJECTIVES

The Florida Cardiovascular Quality Network is based on the following objectives:

(1) In patients presenting for CV evaluation, systematic use of a CDS app at the point of care will improve appropriate use of multi-modality imaging (ACC FOCUS app).

(2) In angina patients, the systematic use of a questionnaire in a mobile format with ease of use at the point of care will assist angina symptom documentation, and improve guideline based treatment (SAQ app).

(3) In patients at CV risk, an interactive visual patient education CDS app utilized at the point of care will improve understanding of ischemic heart disease, adherence to medical treatment, and improve cardiovascular risk profile (ACC Cardiosmart app).

METHODS

FCQN Clinical Sites
- Statewide Quality Registry
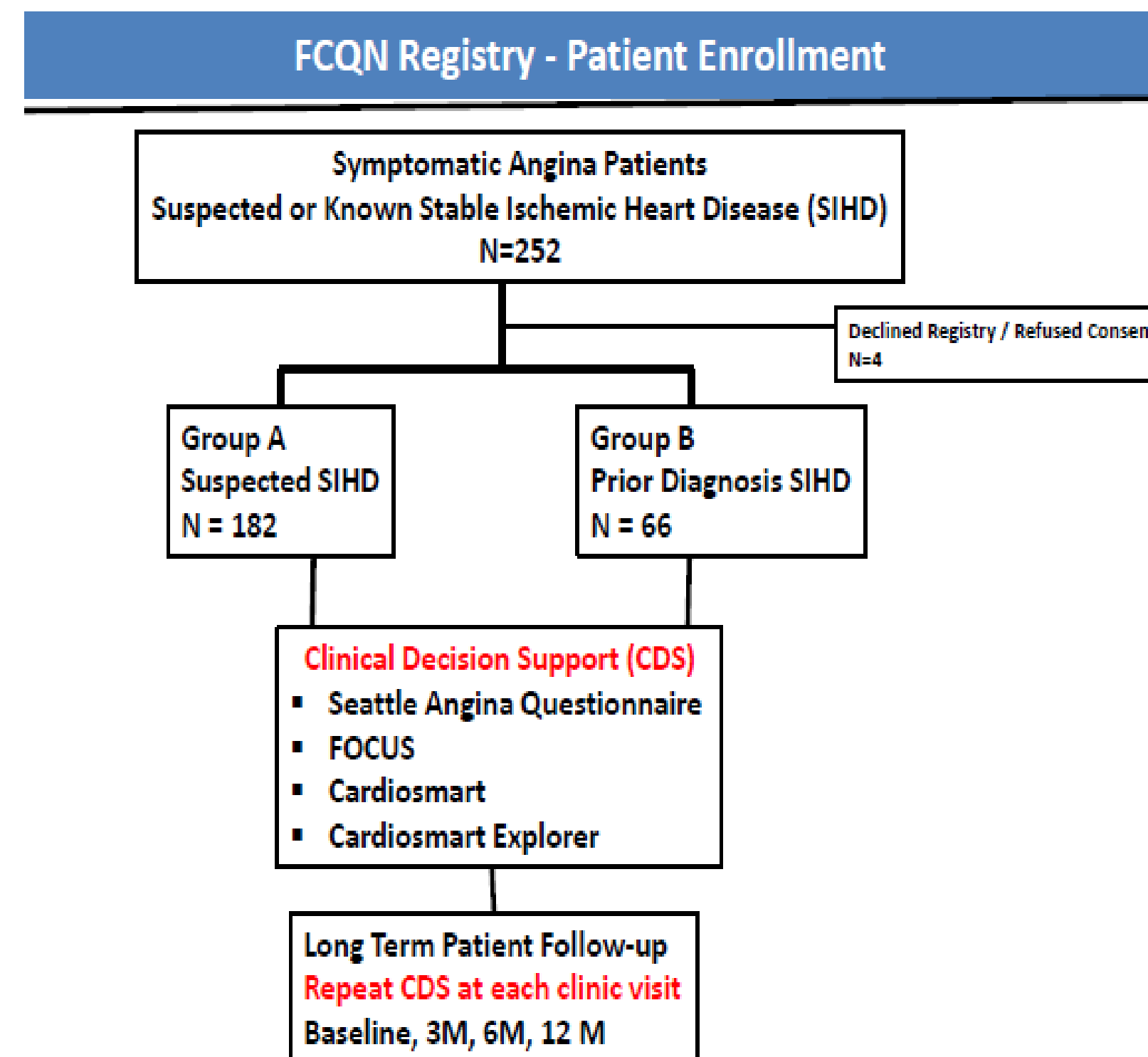- IRB and Florida Chapter ACC oversight

Patients
- n = 252 patients with symptomatic angina
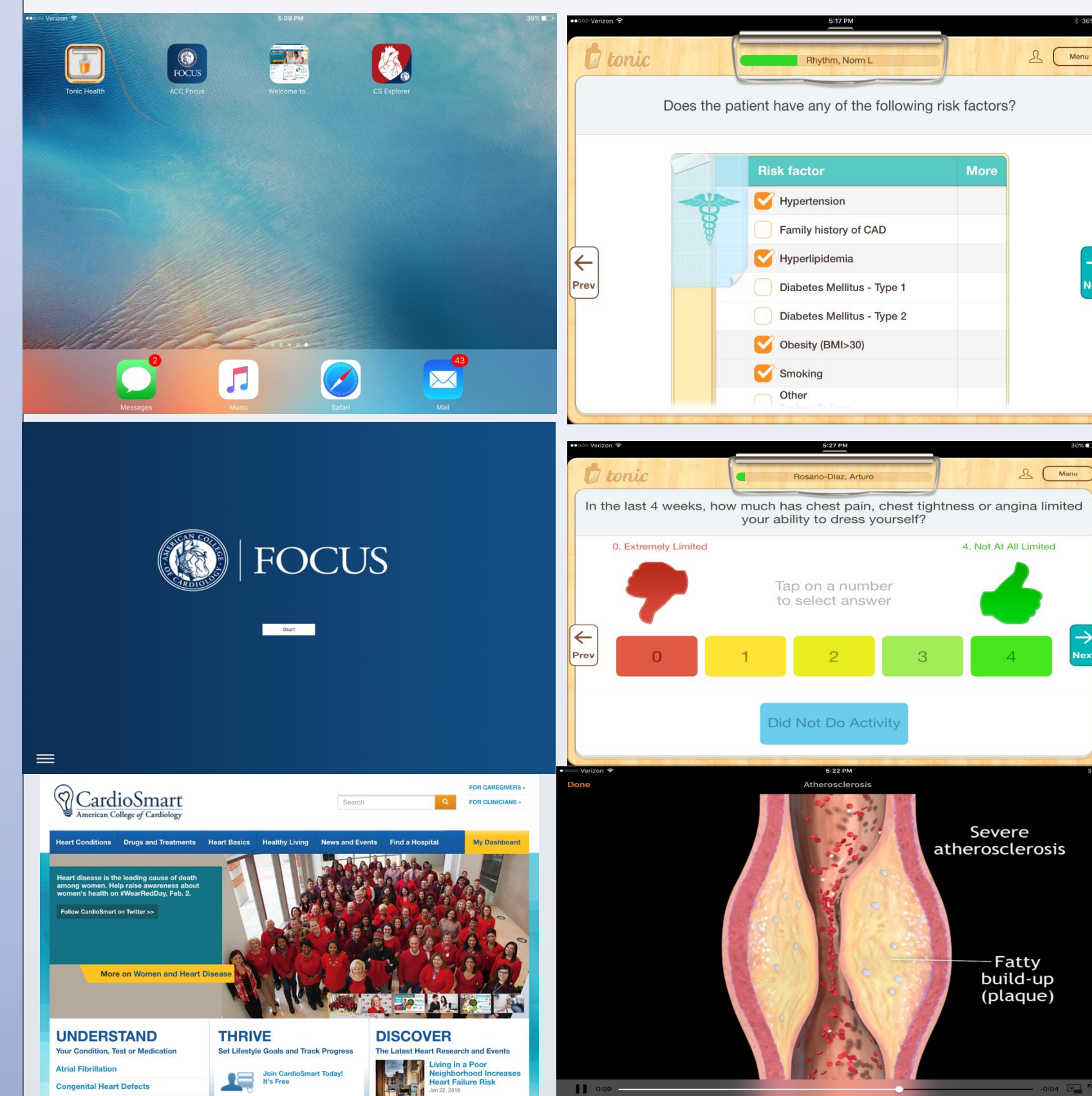- Group A = without pre-existing SIHD
- Group B = with pre-existing SIHD

Point of Care Clinical Decision Support (apps)
- Seattle Angina Questionnaire (SAQ)
- FOCUS -AUC multimodality imaging
- Cardiosmart
- Cardiosmart Explorer
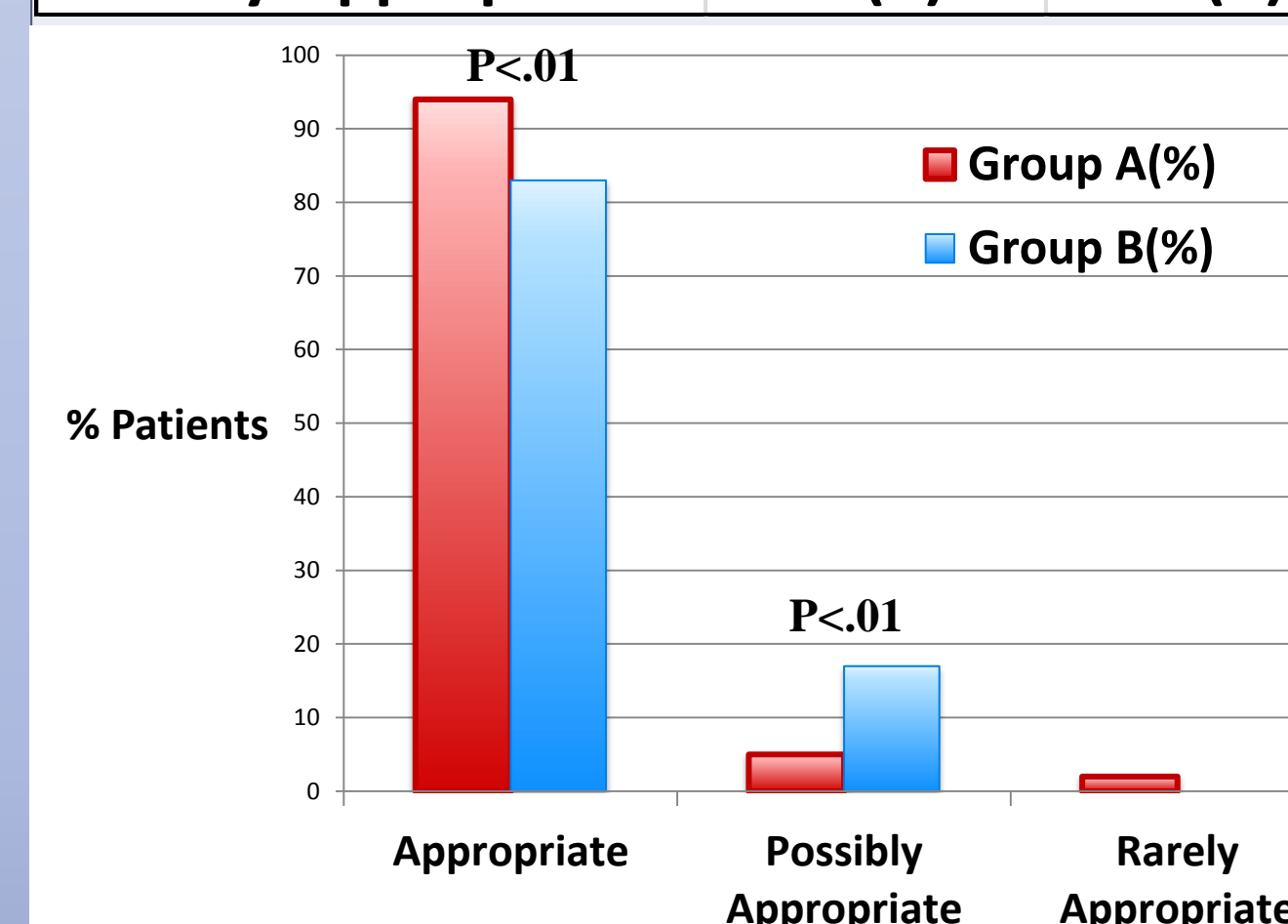
Clinic Visits: Baseline, 3 M, 6 M, 12 M

FCQN Registry - Patient Enrollment

METHODS – CDS Tools (Apps)

RESULTS

Demographics

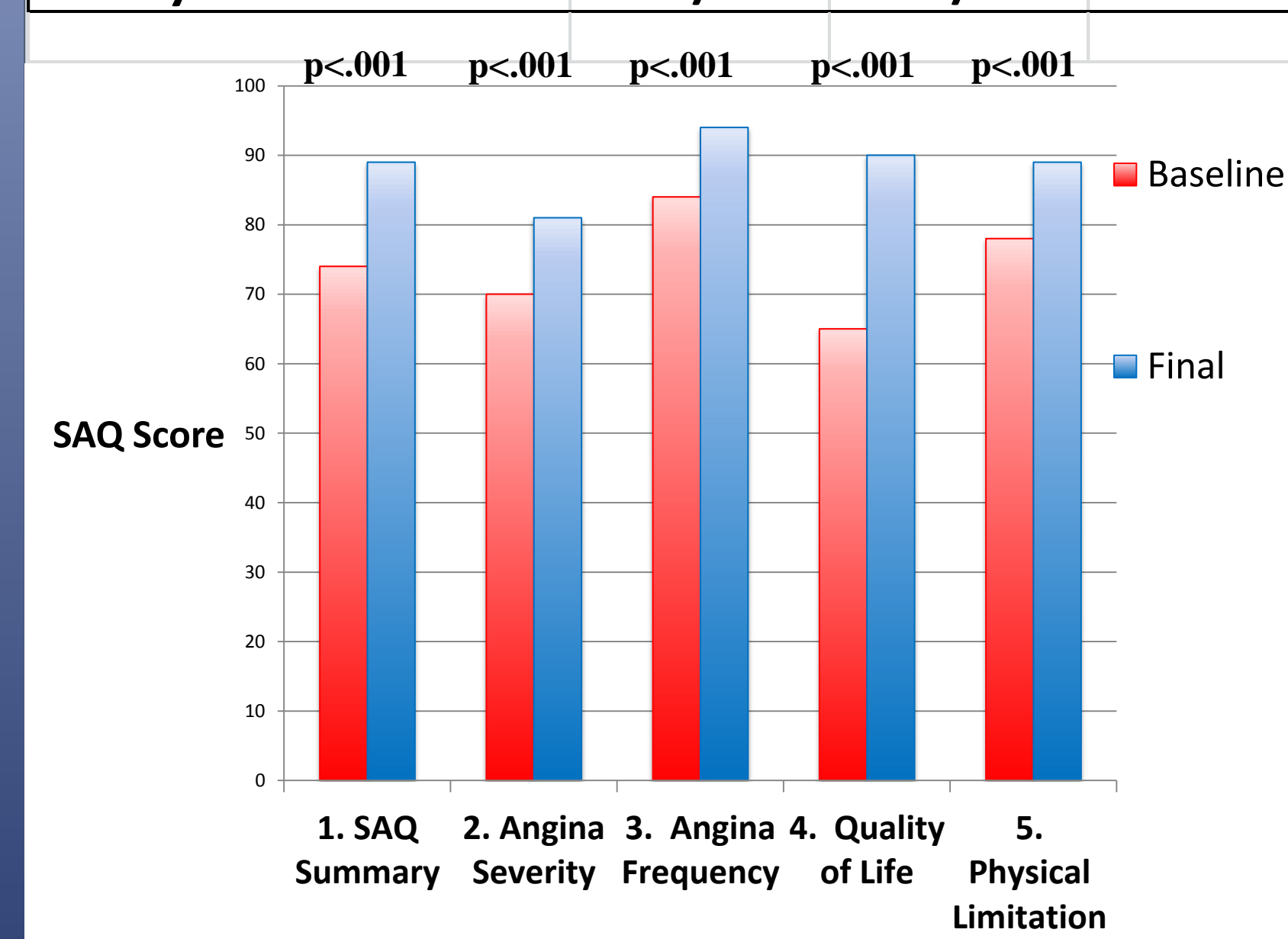|	Group A	Group B	p
	n=182	n=66	
Age (mean)	63+/-13	70+/-10	<.001
Gender n (%)			
Male	72 (39)	44 (67)	<.01
Female	110 (61)	22 (33)	<.01
Ethnicity n (%)			
White	139 (76)	56 (85)	<.02
Black	25 (14)	4 (6)	<.01
Hispanic	11 (6)	4 (6)	ns
Other	7 (4)	2 (3)	ns
Risk Factors n (%)			
Hypertension	121 (66)	57 (86)	<.001
Hyperlipids	103 (57)	57 (86)	<.001
Diabetes	31 (17)	28 (42)	<.001
Smoking	28 (15)	11 (16)	ns
Obesity BMI > 30	86 (47)	35 (53)	ns
Cardiosmart n (%)	153 (84)	49 (74)	<.05

RESULTS

FOCUS – Appropriate Use Criteria

AUC - Multimodality Imaging

	Group A	Group B	
	n (%)	n (%)	p
Appropriate	171 (94)	55 (83)	<.01
Possibly Appropriate	9 (5)	11 (17)	<.01
Rarely Appropriate	2 (1)	0 (0)	ns

Seattle Angina Questionnaire

Seattle Angina Questionnaire - ALL patients

	Baseline	Final	p
1. SAQ Summary	74+/-19	89+/-21	<.001
2. Angina Severity	70+/-15	81+/-10	<.001
3. Angina Frequency	84+/-16	94+/-10	<.001
4. Quality of Life	65+/-11	90+/-14	<.001
5. Physical Limitation	78+/-27	89+/-27	<.001

CONCLUSIONS

(1) The FCQN demonstrates that in diverse clinical sites, utilization of multiple CDS tools and patient education tools in a tablet format at the point of care has proven clinically feasible.

(2) CDS assisted provider documentation of AUC for multi-modality imaging in all patients, with a higher AUC compliance in patients without known CAD. Use of an AUC app at the point of care resulted in a very low percentage of rarely appropriate imaging.

(3) SAQ scores identified symptomatic patients with high angina frequency and low quality of life. The point of care application of SAQ directly enhanced provider awareness of quantitative angina scores and led to improved SIHD guideline care, resulting in significant improvement in documented patient angina symptoms and quality of life.

(4) ACC CardioSmart patient education and teaching was effectively used and assisted in reduction of CV risk.

(5) The FCQN demonstrates an innovative system of care utilizing a systematic point of care application of multiple CDS tools applied in the out-patient clinic with a documented significant improvement in CV quality of care.

DISCLOSURES

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