# Implementing American College of Cardiology Recommendations to Improve Cardiovascular Health Using a Client-Centered Approach

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## Aim

**Increase CV screening and improve healthy lifestyle behaviors using a shared decision- making, client-centered approach for adults to 80% over 90 days.**

## Background

### National Problem[1,2,3]

- Heart disease is the leading cause of death in the United States
- A person dies every 37 seconds from heart disease
- Affects ~ 647,000 Americans or 1 in every 4 deaths
- Overall prevalence of cardiovascular disease (CVD) is 48%
- Leads to poor health outcomes posing a population health risk for heart attack & stroke.
- Direct CV healthcare costs total > $200 billion annually

### Problem/Gaps in Care

- An audit survey showed that only 11% of participants discussed their 10-year atherosclerosis CVD (ASCVD) risk score with their provider.
- Only 31% of participants followed best practice recommendations.
- Although 65% of participants reported shared decision-making (SDM) conversations with their provider, this indicated a need for improvement.
- A baseline team survey showed high stress levels at 60% with external life events & graduate studies as contributing factors.

### Available Knowledge

- According to the American College of Cardiology (ACC), adults should be screened for baseline CVD risk & every 4 to 6 years to guide decisions for primary preventive care interventions.[1]
- The CPGs are congruent with Healthy People 2030 goals to improve health-related quality of life (HRQOL).[4]
- Lack of attention to modifiable CV risk factors delays care, increases morbidity, & healthcare costs.[1]

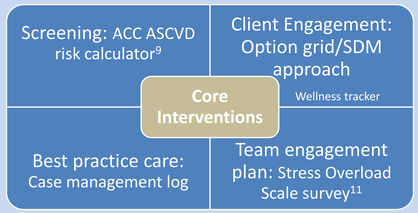
### Rationale/Address Gaps

- The IOM mandated six quality aims to improve healthcare outcomes.[5]
- This project embraced the concept of client-centered care[6] with a shared decision-making process (SDM).[7]
- Clients were assessed for motivation to change using the transtheoretical model of change.[8]
- The ACC risk calculator tool[9] & primary prevention CPGs were used to inform evidence-based practice.[1]

## Methodology

### Planned Improvement

- The plan-do-study-act (PDSA) model, a rapid cycle improvement process, was planned, implemented, & disseminated within 90 days.[10]
- Clinical practice recommendations guided the development of four core interventions:



- During the four, two-week PDSA cycles, observations were gathered biweekly, plotted on run charts for synthesis & reflection to inform the next cycle tests of change (TOC) to drive improvement & sustainability of healthy lifestyle behaviors.

| Core interventions | PDSA cycle 1 | PDSA cycle 2 | PDSA cycle 3 | PDSA cycle 4 |
|---|---|---|---|---|
| **Team engagement:** Modified Stress Overload Scale survey | Implement stress management strategies | Replace one question on survey | Add check welfare as stress management technique | Incorporate mind body practice to reduce stress |
| **Client engagement:** Option grid & wellness tracker | Implement option grid SDM tool | Write one goal on wellness tracker with new clients | Clients use a reminder to complete goals | Ensure physical activity goals are realistic |
| **Process 1:** ACC ASCVD Risk Estimator Plus Tool | Implement ASCVD risk screening tool | Spread ASCVD risk screening tool | Standardized teaching approach | Expand access to ASCVD risk assessment |
| **Process 2:** Best practice care & CML | Implement best practice care case management log | Change data collection days | Add individualized coaching to meet best practice care guidelines | Add motivational interviewing style guidance |

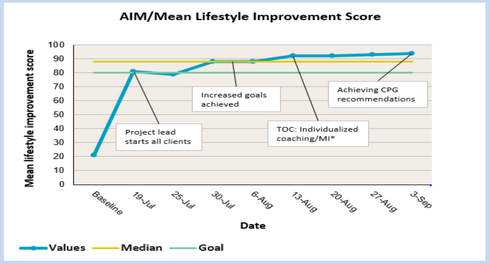
### Context

- During the COVID-19 pandemic, the virtual cohort team comprised of four Frontier Nursing University (FNU) peers & three consulting team nurse practitioner colleagues.
- A convenience/snowball sample recruited from across the United States via social media platforms; sample demographics were 67% female, 95% Caucasian, 38% nursing professionals, with a mean age of 58 years old.

## Measures

| Core Interventions | Process | Outcome |
|---|---|---|
| **AIM** | **Mean Lifestyle Improvement Score** ASCVD screening completed plus mean best practice care score/2 | |
| **Screening tool: ASCVD risk calculator** | # of clients completing ASCVD risk assessment/# of clients seen | Percentage of clients identified with ASCVD risk score > 7.5 |
| **Client engagement: Option grid/ shared decision-making tool & wellness tracker** | # of clients completing option grid/# of clients seen | Mean completed goals score |
| **Best practice care: Case management log** | # of clients in log/# of clients choosing options | Mean best practice care score |
| **Team engagement: Modified Stress Overload Scale (SOS)** | # of completed team engagement surveys/# of surveys sent | Mean team stress level score: Range 1-5 |
| **Balancing measure** | Mean project hours spent per week | |

## Results




The project AIM/mean lifestyle improvement score was a composite score derived from the mean risk screening & best practice care scores. Although technically there are too few data points to analyze for shifts & trends, you notice gradual upward progress. The project AIM score increased from a baseline of 21% to 88% & surpassed the projected goal of 80%. *Note.* MI = motivational interviewing; SDM = shared decision-making; CPGs = clinical practice guidelines.

| Core Interventions/Outcome measures | Baseline % | Goal % | Project Mean % |
|---|---|---|---|
| AIM/Mean lifestyle improvement score | 21 | 80 | 88 |
| Screening tool: ACC ASCVD risk calculator | 0 | < 50 | 29 |
| Client engagement: Option grid/SDM tool | 48 | 75 | 77 |
| Case management log: Best practice care | 31 | 80 | 79 |
| Team engagement: Stress level survey | 60 | 40 | 52 |
| Balancing Measure: Hours spent on QI | 22 | < 35 | 40 |

The best practice care score correlated with the completed goals score that showed six consecutive shifts & trends indicative of special cause variations that coincided with individualized coaching. Clients had difficulty writing measurable SMART goals so the most impactful TOC was assistance in writing goals that provided the foundation for clear measurable outcomes. *Note.* Medians were 81 & 78 respectively. MI = motivational interviewing.

## Conclusions

- The ACC guidelines offer sound evidence for incorporating the ASCVD risk assessment tool to inform intensity of lifestyle interventions.
- The client-centered, SDM approach empowered clients to take an active role in mitigating modifiable risk factors to improve CV well-being & HRQOL.
- The project AIM/mean lifestyle improvement score combined risk screening & best practice care, which increased from a baseline of 21% to 88% & surpassed the projected goal of 80%.
- The validated risk screening tool showed a positive association with motivating clients to establish healthy lifestyle routines, but sustainability depends on individual commitment.
- The ASCVD risk screening tool is user friendly & time efficient; while SDM approaches are a mainstay of standardized care, therefore generalizable to primary care practices.
- Limitations to generalizability include the virtual setting, convenience sampling bias, & low power.
- Further QI studies could focus on a team approach to support clients in achieving long-term goals.
- The next step for DNP leaders involves establishing collaborative interdisciplinary teams to bridge the gap between best practice research & clinical practice to improve quality CV health outcomes.

## Lessons Learned

- The virtual setting created barriers to an interdisciplinary team effort toward a common goal but also provided access to preventive screening during the COVID pandemic.
- Subjectivity bias in analyzing health indicators emphasized the value of writing clear operational definitions for metrics.
- Learning involved the value of client partnerships using SDM approaches to promote client-centered care as the primary driver of change.
- In reflection, despite some ambivalence to change, guidance helped improve client's self-efficacy & addressed personal barriers in achieving goals.

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