Reducing Atherosclerotic Cardiovascular Disease (ASCVD) Risk with a Patient-Centered Approach

Key Opinion Leader (KOL) Phase Two Summit: Preventive Cardiovascular Nurses Association (PCNA)

August 17, 2022

Background

The American Heart Association (AHA) estimates that 83 million Americans are living with one or more forms of cardiovascular disease (CVD) and an estimated 31.9 million American adults have elevated blood cholesterol levels.[i] Elevated low-density lipoprotein cholesterol (LDL-C) is well understood to be directly associated with the development of atherosclerotic cardiovascular disease (ASCVD), leading to increased risk for heart attack, stroke and peripheral artery disease. Despite advances in pharmacologic treatment of dyslipidemia, high cholesterol remains a significant public health problem in the U.S, with more than 25% of adults aged 40–74 having high LDL-C levels.[ii]

AHA and the American College of Cardiology (ACC) updated the adult treatment guidelines for the management of cholesterol, which were released in November 2018. While statins remain the first-line therapy for lowering LDL-C, a significant portion of the population, including those considered high-risk, are receiving sub-optimal or no treatment to lower their cholesterol. Optimizing LDL-C for people with coronary heart disease or stroke is one of the goals for the Healthy People 2020 initiative to reduce health disparities and improve the overall health of the U.S. population. Utilizing a population health approach to care includes a wide range of stakeholders working together to implement primary and secondary prevention measures, improving the health of the population as a whole.

To address barriers to optimal primary and secondary prevention of ASCVD, the Preventive Cardiovascular Nurses Association (PCNA) coordinated and hosted a virtual roundtable summit meeting on August 17, 2022, with key stakeholders from the continuum of care. Eighteen participants were purposefully selected from diverse geographical and practice settings, including health care providers in primary care, emergency medicine, cardiology, cardiopulmonary rehabilitation, pharmacy, health policy/advocacy and patient groups.

GOALS

Goals of the roundtable summit included:

- Divide group into barrier subgroups
- Review and discuss previous meeting discussion and outcomes
- Identify and share best practices to address potential gaps or system shortfalls
- Identify specific information and messaging related to ASCVD that aligns with, or should be integrated into, existing or newly developed stakeholder efforts
    - Develop recommendations for professional societies and healthcare providers that prioritize action-oriented initiatives

- Outline methods for individual organization strategies and options for increasing collaboration to enhance efforts

Objectives

The objective of the summit was to improve understanding of a population health/systems approach to ASCVD prevention and management through:

- Facilitating constructive discussion among key stakeholders
- Evaluating the landscape of established and emerging barriers
- Developing a consensus-based, multi-pronged strategy to improve patient management
- Making recommendations for professional society and patient organization advocacy and engagement
- Encouraging robust collaboration across stakeholder groups following the summit

Participants (KOLs)/Organizations Represented*

- **American Assoc. of Cardiovascular and Pulmonary Rehabilitation (AACVPR)**
  - Ana Mola, PhD, RN, ANP-C, MAACVPR
    NYU School of Medicine, NY, NY
- **American Assoc. of Nurse Practitioners (AANP)**
  - Leslie Davis, PhD, ANP-BC, FAANP
    University of North Carolina, Chapel Hill, NC
- **Assoc. of Black Cardiologists (ABC)**
  - Karol Watson MD, PhD, FACC
    University of California Los Angeles, Los Angeles, CA
- **American College of Cardiology (ACC)**
  - Carla Weidner DNP, FNP-BC, CLS, AACC, FNLA
    St. Lukes University Health Network, Bethlehem, PA
- **American Pharmacists Association (APhA)**
  - Sarah Billups, PharmD, BCPS
    University of Colorado, Anschutz Medical Campus, Aurora, CO
- **American Society for Preventive Cardiology (ASPC), InterAmerican Heart Foundation**
  - Nathan Wong PhD, MPH, FACC, FAHA, FNLA, FASPC
    University of California, Irvine, CA
- **Million Hearts**
  - Hilary K. Wall, MPH
    Centers for Disease Control and Prevention, Atlanta, GA
- **National Association of Community Health Workers (NACHW)**
  - Josephina Scheindlinger (Chavez) MSN (Master of Science in Nutrition)
    Yuma, AZ
- **National Forum for Heart Disease and Stroke Prevention**
  - Kim Stitzel, MS, RD
    Stitzel Health and Well-Being LLC, Southlake, TX
- **National Lipid Association (NLA)**
  - Kaye-Eileen Willard, MD, FNLA
    Ascension Health, All Saints Hospital, Racine, WI

- **Preventive Cardiovascular Nurses Association (PCNA)**
    - Yvonne Commodore Mensah PhD, MHS, RN, FAAN, FAHA, FPCNA
      Summit Moderator
      Johns Hopkins University, Baltimore, MD
    - Linda G. Park, PhD, MS, FNP-BC, FAAN, FAHA
      Keynote Presenter
      University of California, San Francisco, CA
    - Sue Koob, MPA, CEO
      PCNA, Madison, WI
    - Joanna Dagenais MSN, RN, CCRN-K, Director of Clinical Education
      Summit Planner
      PCNA, Madison, WI
- **WomenHeart**
    - Lyn Behnke DNP, FNP-BD
      University of Michigan, Flint, MI
    - Marla Cowan, Patient Advocate
      Glenview, IL

*APPENDIX A – Bio Sketches - Key Opinion Leaders

Keynote Presentation

Introduction

Although there has been substantial improvement in many ASCVD outcomes in recent decades, ASCVD remains the leading cause of morbidity and mortality globally. In fact, over the last decade, we have lost gains as CVD-related mortality has increased for both women and men in the US. ASCVD is also the leading cause of death in the US for most racial/ethnic groups, with an estimated cost of over $200 billion annually in healthcare services, medications, and lost productivity. Much of the excess mortality is attributable to the sub-optimal implementation of prevention strategies and uncontrolled ASCVD risk factors in adults.[iii]

The global CVD-related death toll for 2019 was near 18.6 million, an increase of more than 26 percent over 2010. Of these deaths, 85% were due to heart attack and stroke. Over 75% of CVD deaths take place in low- and middle-income countries and most CVD deaths can be prevented. In the US some groups have displayed modest improvements in CV health (CVH), other groups, specifically lower socioeconomic positions, are experiencing worsening CVH, creating a bimodal distribution. Differences in CVH prevalence by self-reported race and ethnicity; disparities are larger at younger ages. Prevalence of high CVH varies geographically and is higher in those who live in urban areas compared with rural areas. Poor CVH in pregnancy is associated with poor CVH in offspring, suggesting that ideal CVH is not universal even at birth.[iv]

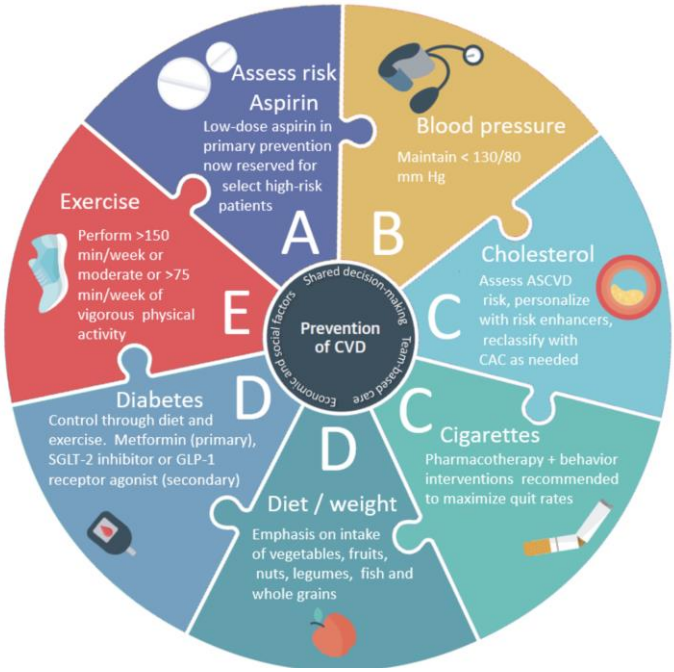
Guideline Updates

Guidelines impacting CVH have been released with significant changes in 2017, 2018 and 2019. The 2018 Guideline on the Management of Blood Cholesterol and 2019 Guideline on the Primary Prevention of Cardiovascular Disease impact the work of cardiovascular healthcare providers every day. The ACC and AHA commissioned the 2019 guideline to consolidate existing recommendations and various recent

scientific statements, expert consensus documents, and clinical practice guidelines into a single guidance document focused on the primary prevention of ASCVD. However, this guideline also includes newly generated recommendations for aspirin use, exercise and physical activity, and tobacco use, in addition to recommendations related to team-based care, shared decision-making, and assessment of social determinants of health, to create a comprehensive yet targeted guideline on the prevention of ASCVD.

The guideline emphasizes a patient centered approach that includes team-based care, consideration of social determinants of health, and shared decision making. In addition, assessment of risk is the foundation for improving nutrition and diet, exercise and physical activity, overweight and obesity, type 2 diabetes, high blood cholesterol, hypertension, tobacco use, and aspirin use in the prevention of ASCVD. [v]

ABCDE of Primary Prevention: Lifestyle Changes & Team-Based Care[vi]

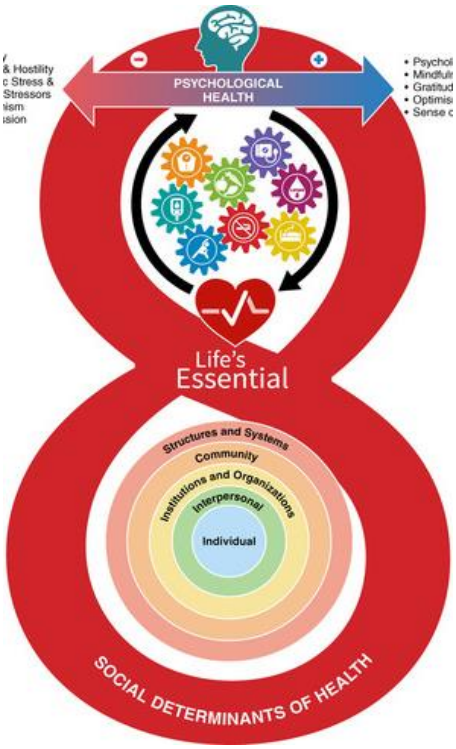


*E also includes Economic and Social Factors

Life's Simple Seven from AHA was recently updated to Life's Essential Eight, with the addition of sleep. The updated model places a higher emphasis on psychological health and social determinants of health. The new approach comprises of two major areas: Health Behaviors and Health Factors. Each metric has a new scoring algorithm ranging from 0 to 100 points, add up to a new composite cardiovascular health score (the unweighted average of all components) that also varies from 0 to 100 points.[vii]

Health Behaviors	**Health Factors**
Diet	Body Mass Index
Physical activity	Lipids
Nicotine exposure	Blood glucose
Sleep	Blood Pressure

Life's Essential 8[viii]



Shared-Decision Making and Patient-Centered Care Plans

Shared-decision making is essential for patient-centered care. In shared decision-making consideration of the patient's preferences and values is crucial. Being ready to make tradeoffs to achieve optimal care will be important; for example, considering the risk of stroke versus the risk of bleeding in prescribing anticoagulants. Once the team recognizes that a decision is needed two options are to utilize risk assessment tools and tailored decision aids. A 10-year risk for ASCVD can start the process of shared decision making. Another consideration is that large, representative cohort studies are needed to improve the risk scoring tools for under-represented populations as the current tools may under-estimate risk in certain racial/ethnic groups, lower socioeconomic status populations and in the presence of chronic inflammatory disease. Healthcare providers can mitigate the risk of under-estimating by adding clinical judgement based on individual patient preferences.[ix]

Risk stratification of ASCVD disease in primary care has identified barriers including time constraints, limitations to accessing tools to complete the calculation, minimal buy-in from clinicians, lack of standardized documentation, and patients fear of side effects or general dislike of taking medications per guidelines. Only one of these factors is related to a patient barrier and the others fall squarely in the scope of clinicians to make improvements.

One of the vital attributes of patient-centered care is active patient participation in the decision-making process. Shared Decision-Making (SDM), the "pinnacle of patient-centered care," is a partnership between patients and clinicians characterized by the open exchange of the research evidence and clinical expertise, the patients' knowledge and experience culminating in joint deliberation and consensus on treatment options. Substantial evidence supports a systematic approach to CVD risk

reduction through team-based, nurse-directed case management, which positively impacts both primary and secondary prevention of cardiac and other vascular diseases.[x] To improve the uptake of ASCVD risk calculation in primary care, intervention strategies must be tailored to common implementation barriers.

Identified Gaps and Opportunities

There are many gaps that create opportunities for improvement in prevention and care of ASCVD. Standardized screenings and electronic decision support tools are key for consistent assessment of risk to be performed. The Centers for Medicare and Medicaid (CMS) published a health-related social needs screening "The Accountable Health Communities Screening Tool" that investigates key factors such as housing stability, food security, transportation needs, utility needs and interpersonal safety. [xi]The first step is accurate identification of vulnerable populations, which will lead to offering the needed resources. It is clear that disparities are present in the available screenings and risk assessments, therefore, as the system works to create more usable frameworks an emphasis on broadening the populations targeted is imperative. For example, adding southeast Asian descent as a high-risk group to dyslipidemia screenings. Additionally, including mental health considerations such as depression to screenings has proven increased accuracy.

Table 1: ASCVD Risk Enhancers

- Family history of premature ASCVD
- Primary hypercholesterolemia
- Chronic kidney disease
- Metabolic syndrome
- Conditions specific to women (e.g. preeclampsia, premature menopause)
- Chronic inflammatory conditions (especially rheumatoid arthritis, psoriasis, HIV)
- Ethnicity (e.g. south Asian ancestry)

Lipid/Biomarkers:

- Persistently elevated triglycerides (≥175 mg/dL)

In selected individuals if measured:

- hsCRP ≥2 mg/L
- Lp(a) levels ≥50 mg/dL or ≥125 nmol/L
- ApoB levels ≥130 mg/dL
- Ankle-brachial index <0.9

Image 1[xii]

Housing Instability

1. What is your housing situation today?

- ☐ I do not have housing (I am staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, abandoned building, bus or train station, or in a park)
- ☐ I have housing today, but I am worried about losing housing in the future.
- ☐ I have housing

2. Think about the place you live. Do you have problems with any of the following? (check all that apply)

- ☐ Bug infestation
- ☐ Mold
- ☐ Lead paint or pipes
- ☐ Inadequate heat
- ☐ Oven or stove not working
- ☐ No or not working smoke detectors
- ☐ Water leaks
- ☐ None of the above

Food Insecurity

3. Within the past 12 months, you worried that your food would run out before you got money to buy more.

- ☐ Often true
- ☐ Sometimes true
- ☐ Never true

4. Within the past 12 months, the food you bought just didn't last and you didn't have money to get more.

- ☐ Often true
- ☐ Sometimes true
- ☐ Never true

Image 2[xiii]

Expanding on the opportunities arising from digital health solutions is another area for opportunity. Digital health technology has the potential to significantly improve the quality and efficiency of healthcare; however, uptake of digital health technology has been slow in clinical practice. Recommendations to increase digital health technology target multiple levels[xiv] and include:

- Capitalize on human-centered design principles
- Test and validate digital health technologies in clinical settings
- Ensure compliance with data privacy and security policies
- Integrate digital health technologies with Electronic Health Records (EHR) and existing processes

- Price digital health technologies fairly and increase internet access
- Develop and enforce regulations, policies and guidelines
- Reimburse clinicians for using digital health technology to deliver care
- Invest in technology that reduces workload
- Provide training to patients and clinicians
- Provide digital health technology supports to patients and clinicians

Current literature has found that greater than 90% of the global population have a mobile phone. This is a staggering statistic that offers ripe opportunity to leverage digital health including text messaging programs, wearable monitors, and various smartphone apps. Health systems have reported success in optimizing digital health solutions by offering free or discounted wireless routers to be shipped directly to patient's homes. Another tactic to enhance digital health solutions is to provide education and training to patients and healthcare providers alike in use. Medicare visits conducted via telehealth increased 63-fold in 2020 alone.[xv] While digital health shows clear advantages, barriers still exist such as affordability, usability, privacy, and security issues. Ongoing work and future research to mitigating these barriers is still needed.

Success Strategies

There are examples of best practices to overcome barriers to risk stratification, access to treatment and overall improved health outcomes for patients in current literature. In a study published in 2021 out of the Veterans Affairs (VA) the use of a novel CVD risk assessment tool specific to women veterans was more accurate than the ACC/AHA risk score.[xvi] While future validation is needed, evidence shows that adding depression as a risk factor and stratifying by race may enhance risk prediction. Studies as recently as 2022 have found that mainstream risk factor models also under-estimate risk in younger populations. Use of coronary calcium scoring and multiple risk score will enhance accuracy.

Despite numerous benefits associated with cardiac rehabilitation programs on enhanced secondary prevention, it is still often underused due to several barriers. Several types of cardiac rehabilitation programs exist, including the traditional center-based, home-based, virtual and hybrid. While center-based is the preferred method, home-and hybrid-based programs also provide positive outcomes for patients and may open the opportunity for cardiac rehab to benefit more patients.[xvii]

Cardiac rehabilitation is also an example of inter-disciplinary and team-based care, including partnership with the patient, as well as physicians, advanced practice providers, nurses, respiratory therapy, physical therapy, and more. The team-based, multi-modal approach of an organized cardiac rehabilitation program benefits the complex CVD patient with individualized needs. Implementing interdisciplinary care teams can help address access to care, assist with navigation through the healthcare system, facilitate the use of community-based services, empower patient choices and decision-making, and promote self-care.[xviii]

Assessing and mitigating barriers related to health inequities and health literacy early on is key for successful CVD care. Determining the root of the inequity present, whether it is a language barrier or a social determinant of health, early and accurate identification of the barrier will lend to identifying the accurate approach to remedying. Examples of tools include use of a medical interpreter, involvement of family, friends and/or caregivers and recommending community-based resources.

A 2019 study found that leveraging community-based resources can improve health outcomes for patients by initiating barbershop-based blood pressure control programs. This program is approximated to reach over 900,000 Black men each year.[xix] Another example of utilizing resources available in the community was a 2020 study that investigated pharmacist-led interventions on CV risk factors that showed positive impact on medication adherence and a significant reduction in systolic blood pressure.[xx]

The VA offers a "Telehealth: Digital Divide" program that aims to leverage opportunities afforded by telehealth while also mitigating complications that may arise.[xxi]The program consists of components including: a consult, free mobile connectivity for telehealth, telehealth sites in the community, VA internet-connected device availability, phone service discounts, and internet service discounts.

Million Hearts® is a national initiative, co-led by the Centers for Disease Control and Prevention (CDC) and the Centers for Medicare & Medicaid Services (CMS), with a goal of preventing 1 million heart attacks and strokes in 5 years. The initiative works with public- and private-sector partners to focus on advancing a set of strategies selected for the proven impact on preventing cardiovascular events. These strategies included:

- Translated the science of self-measured blood pressure monitoring (SMBP) into practice with the development of actionable resources.
- Convened a forum of more than 400 clinical, public health, and community-based partner members to facilitate the exchange of ideas, tools, and solutions to optimize SMBP use nationwide.
- Led Cardiac Rehabilitation Collaborative, a body of 400 health professionals taking action to increase cardiac rehabilitation participation.
- Recognized 118 Hypertension Control Champions, serving 15 million adults across 37 states, for achieving at least 70% blood pressure control.
- Supported National Association of Community Health Centers (NACHC to detect undiagnosed HTN, address underutilization of cholesterol-lowering meds for those at high risk and improve BP control for African Americans with diagnosed HTN.

In its first 5-year cycle (2012-2016), Million Hearts® prevented an estimated 135,000 heart attacks, strokes, and related acute cardiovascular events. In addition, $5.6 billion in direct medical costs, a substantial portion of which was saved by public insurance programs like Medicare and Medicaid.[xxiii]

The keynote address called on those KOL's attending to consider the following ASCVD risk reduction discussion points:

- Guidelines on system/institution vs. individual changes
- Re-prioritizing the time of busy providers to participate in risk assessment
- Get community partners involved, meet patients where they live, work, pray and play
- Guideline on how community partners are acknowledged and reimbursed
- Increasing the role of community-based participatory research

Moderated Discussion Among Organizational Representatives

Key Opinion Leaders were divided into two groups to focus on:

- Access to Treatment: Innovative Approaches
- Adherence to Treatment: Team-Based Care and Shared Decision Making

Four questions were posed to the Key Opinion Leaders for further discussion, recommendations, and explorations:

1. What are the major challenges and/or barriers to achieving optimal ASCVD-related health outcomes?
2. Who are the key stakeholders in promoting ASCVD health?
3. What are examples of strategies and best practices to improve ASCVD health outcomes?
4. What are potential methods for organizational collaboration for the promotion of ASCVD population health?

Summary and Future Directions

Five call to action (CTA) statements regarding barriers and strategies to improve ASCVD population health emerged as key themes from the 2022 Keynote Presentation and Key Opinion Leader discussion.

1) Support updated standard ASCVD risk assessments
2) Address existing gap in HCP knowledge on interventions and treatment pathways
3) Enhance patient-centered aspects of care plans
4) Ensure health policies are updated to provide more whole person care
5) Focus on improving care for minority populations, including emphasis on women with ASCVD

The consensus of the KOL participants was that partnering organizations need to work together to address the barriers and challenges to ASCVD risk reduction. Collective actions should include: advocating for health equity, actively promoting collaboration between disciplines, sharing available tools and resources, promoting evidence-based guidelines, and sharing data.
As a result of the ASCVD KOL meeting, PCNA plans to implement the following actions in 2022-2023.

Call to Action	**Next Steps**
Support updated standard ASCVD risk assessments	ASCVD KOL participants, PCNA leadership, and PCNA members will seek opportunities to participate in guideline review committees and task forces. Anticipated goals include: • Adding South Asian as high-risk group • Adding the effects of depression on CVD health • Including HDL-raising therapies • Incentivize and track performance of providers and systems in CVD risk assessment, and use of standardized CVD risk assessment tools • Addressing social determinants of health (SDOH) in patients who are being assessed for risk/screened for ASCVD by providing information on next steps and solutions
Address existing gap in HCP knowledge on interventions and treatment pathways	PCNA to work with subject matter experts on ASCVD prevention and management to produce and disseminate education on interventions and treatment pathways. PCNA will: • Host 2nd annual Cholesterol Summit in 2023 • Host 3rd annual ASCVD KOL meeting to gain updated insight and direction

	• Produce informational ASCVD-related podcasts for health care professionals • Highlight lipid and cholesterol enhancement strategies at 2023 Cardiovascular Nursing Symposium • Update Lp(a) patient education tool • Explore additional opportunities such as social media campaign(s) on topics such as Lp(a)
Enhance patient-centered aspects of care plans	PCNA to work with clinicians across the country to create new or update existing patient and healthcare provider educational tools that: • Promote shared decision-making and working in partnership with families and caregivers • Assess appropriate venue for clinical visits with patient: in-person, virtual, hybrid • Offer solutions to potential language or cultural barriers • Develop easy to understand guides on accessing lower cost assessments, medications • Incorporate equity into everyday practice • PCNA to continue to promote collaborative work structures through both domestic programming as well as through the Global Cardiovascular Nursing Leadership Forum
Ensure health policies are updated to provide more holistic care	PCNA leadership and members will work with legislative partners to: • Consider early childhood as a vital period of CVD health and risk reduction for the rest of an individual's life • Partner with organizations, including but not limited to, American Medical Association, American Heart Association, Million Hearts, National Forum, Partnership to Advance Cardiovascular Health, and Industry partners, to target improved Medicare coverage • Continue to encourage Centers for Medicare & Medicaid Services (CMS) to complete a national coverage determination for Medicare patients for self-measured blood pressure (SMBP) • Ensure that Community Health Workers (CHWs) are included in the implementation of the patient's care plan, and increase the tools available to CHWs (such as sharing PCNA resources with Community Health partners) • Continue to champion increased coverage for polypharmacy to maximize effective treatment of ASCVD • Focus on affordable solutions (treatment and therapeutics) for patients • Promote pharmacists as a resource in community settings • Increase collaboration of entire health care team to bring care to the patient in settings such as cardiometabolic health visits/centers
Focus on improving care for minority populations with ASCVD needs, including emphasis on women	PCNA will • Host 3rd annual Heath Equity Summit in 2023. Day two of the two-day event will focus on issues facing women's cardiovascular health • Include women's ASCVD health issues in the 2nd annual Cholesterol Summit • Highlight health issues of minority populations in case studies of new and existing educational programming such as the Hypertrophic Cardiomyopathy Lunch and Learn series

[i] Go AS, Mozaffarian D, Roger VL, et al; on behalf of the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics—2014 update: a report from the American Heart Association. *Circulation*. 2014;129:
[ii] Kuklina EV, Carroll MD, Shaw KM, Hirsch R. Trends in high LDL cholesterol, cholesterol-lowering medication use, and dietary saturated-fat intake: United States, 1976-2010. NCHS Data Brief. 2013 Mar;(117):1-8. Available at: http://www.ncbi.nlm.nih.gov/pubmed/23759124. Accessed July 20, 2014.
[iii] Roth G.A., et al, Global Burden of Cardiovascular Disease and Risk Factors, 1990-2019: Update from the 2019 GBD Study. J Am Coll Cardiol. 2020 Dec, 76 (25) 2982–3021
[iv] Lloyd-Jones DM, Allen NB, Anderson CAM, et al. Life's Essential 8: Updating and Enhancing the American Heart Association's Construct of Cardiovascular Health: A Presidential Advisory From the American Heart Association. Circulation. Published online June 29, 2022. doi:10.1161/cir.0000000000001078
[v] Arnett DK, et al. 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. J Am Coll Cardiol. 2019 Mar 17. pii: S0735-1097(19)33877-X. doi: 10.1016/j.jacc.2019.03.010. PubMed PMID: 30894318.
[vi] The abcs of primary cardiovascular prevention: 2019 update. American College of Cardiology. https://www.acc.org/latest-in-cardiology/articles/2019/03/21/14/39/abcs-of-primary-cv-prevention-2019-update-gl-prevention. Accessed October 18, 2022.
[vii] Donald M. Lloyd-Jones. Circulation. Life's Essential 8: Updating and Enhancing the American Heart Association's Construct of Cardiovascular Health: A Presidential Advisory From the American Heart Association, Volume: 146, Issue: 5, Pages: e18-e43, DOI: (10.1161/CIR.0000000000001078)
[viii] Lloyd-Jones DM, Allen NB, Anderson CAM, et al. Life's essential 8: Updating and enhancing the American Heart Association's construct of Cardiovascular Health: A presidential advisory from the American Heart Association. Circulation. 2022;146(5). doi:10.1161/cir.0000000000001078
[ix] Lloyd-Jones, D. M. et al. (2019). Use of Risk Assessment Tools to Guide Decision-Making in the Primary Prevention of Atherosclerotic Cardiovascular Disease: A Special Report From the AHA/ACC. JACC, 73(24), 3153–3167. https://doi.org/10.1016/j.jacc.2018.11.005
[x] Maron BJ, Nishimura RA, Maron MS. Shared decision-making in HCM. Nature Reviews Cardiology. 2017;14(3):125-126. doi:10.1038/nrcardio.2017.6
[xi] Billioux A, Verlander K, Anthony S, Alley D. Standardized Screening for Health-Related Social Needs in Clinical Settings: The Accountable Health Communities Screening Tool. NAM Perspectives. 2017;7(5). doi:10.31478/201705b
[xii] Robert Derenbecker MD, Seth Martin MD. Primary cardiovascular prevention: 2019 ACC/AHA Guideline update. Patient Care Online. https://www.patientcareonline.com/view/primary-cardiovascular-prevention-2019-accaha-guideline-update?page=6. Published November 15, 2020. Accessed October 18, 2022.
[xiii] Alexander Billioux KV. Standardized screening for health-related social needs in clinical settings: The Accountable Health Communities Screening Tool. National Academy of Medicine. https://nam.edu/standardized-screening-for-health-related-social-needs-in-clinical-settings-the-accountable-health-communities-screening-tool/. Published August 25, 2020. Accessed October 18, 2022.
[xiv] Whitelaw et al. Barriers and facilitators of the uptake of digital health technology in cardiovascular care: a systematic scoping review. Eur Heart J-Digital Health. 2021; 2(1):62-74.
[xv]Division N. New HHS Study Shows 63-Fold Increase in Medicare Telehealth Utilization During the Pandemic. HHS.gov. Published December 3, 2021. https://www.hhs.gov/about/news/2021/12/03/new-hhs-study-shows-63-fold-increase-in-medicare-telehealth-utilization-during-pandemic.html
[xvi] Jeon-Slaughter, H., Chen, X., Tsai, S., Ramanan, B., & Ebrahimi, R. (2021). Developing an Internally Validated Veterans Affairs Women Cardiovascular Disease Risk Score Using Veterans Affairs National Electronic Health Records. Journal of the American Heart Association, 10(5), e019217. https://doi.org/10.1161/JAHA.120.019217
[xvii] Imran HM, Baig M, Erqou S, et al. Home-based cardiac rehabilitation alone and hybrid with center-based cardiac rehabilitation in heart failure: A systematic review and meta-analysis. *Journal of the American Heart Association*. 2019;8(16). doi:10.1161/jaha.119.012779
[xviii] White-Williams, C., Rossi, L.P, Bittner, V.A., et al. on behalf of the American Heart Association Council on Cardiovascular and Stroke Nursing; Council on Clinical Cardiology; and Council on Epidemiology and Prevention (2020). Addressing Social Determinants of Health in the Care of Patients with Heart Failure: A Scientific Statement from the American Heart Association. Circulation. 2020;141: e841–e863. https://doi.org/10.1161/CIR.0000000000000767
[xix] Victor R. et al. Circulation. 2019;139:10–19. DOI: 10.1161/CIRCULATIONAHA.118.038165; Kazi D. et al. Circulation. 2021;143:2406–2408.
[xx] Alshehri AA, Jalal Z, Cheema E, Haque MS, Jenkins D, Yahyouche A. Impact of the pharmacist-led intervention on the control of medical cardiovascular risk factors for the primary prevention of cardiovascular disease in general practice: A systematic review and meta-analysis of randomised controlled trials. Br J Clin Pharmacol. 2020 Jan;86(1):29-38. doi: 10.1111/bcp.14164. Epub 2020 Jan 3. PMID: 31777082; PMCID: PMC6983518.
[xxi] Bridging the Digital Divide | Telehealth VA. telehealth.va.gov. https://telehealth.va.gov/digital-divide

Appendix A: KOL Participant Bio Sketches

Ana Mola, PhD, RN, ANP-C, MAACVPR
Clinical Professor, NYU College of Nursing
Assistant Clinical Professor, NYU School of Medicine, Department of Rehabilitation Medicine
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American Association of Cardiovascular and Pulmonary Rehabilitation

Dr Ana Mola has several decades of experiences in clinical acute and primary care, administration, research, and education. Areas of clinical experiences includes cardiology, cardiopulmonary rehabilitation (CPR), care management (CM) and nursing education programs. She is an adjunct clinical professor at the NYU College of Nursing and an Assistant Clinical Professor in the Department of Rehabilitation Medicine in the NYU School of Medicine. Dr Mola developed the NYU Langone Health CM professional development program which included new hire onboarding, preceptorship program, and simulation clinical training. She transitioned to Healthfirst Insurance Plan in 2020 to establish their CM professional development center. She has published peer reviewed articles and has presented locally, nationally, and internationally on value-based care, primary/secondary prevention care of the cardiovascular patient, and transitions of care of patients within a CPR model.

Leslie Davis, PhD, ANP-BC, FAANP
Associate Professor, University of North Carolina at Chapel Hill, School of Nursing
Nurse Practitioner, University of North Carolina at Chapel Hill, Division of Cardiology
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Leslie L. Davis is an Associate Professor at the University of North Carolina (UNC) at Chapel Hill.
Dr. Davis maintains a part-time nurse practitioner practice with the Division of Cardiology at the UNC Chapel Hill School of Medicine. A cardiovascular expert, Dr. Davis is a certified hypertension clinician and a fellow in the American Academy of Nurses (AAN), the American College of Cardiology (ACC), the American Association of Nurse Practitioners (AANP), the American Heart Association (AHA), and the Preventive Cardiovascular Nurses Association (PCNA). She received the 2021 Distinguished Associate Award from the ACC and currently serves as an Associate Editor for the Journal of Nurse Practitioners.

As a nurse scientist Dr. Davis' research addresses self-care and symptom management in adults with cardiovascular conditions. Dr. Davis has developed and tested a unique individualized self-care intervention aimed at improving symptom recognition, interpretation, and care-seeking behavior in women who have experienced an acute coronary syndrome (ACS) event. Her intervention is delivered within the first 30-days after an ACS event when women are at highest risk for readmission for recurrent symptoms and less likely to have started cardiac rehabilitation as compared to men. Improving symptom recognition and timely communication of recurrent symptoms is considered the single most important factor for improving ACS patient outcomes. Dr. Davis' innovative intervention may ultimately equip women with the knowledge and skills to recognize a change from stable angina symptoms to progressive angina, ideally before their next ACS event.

Karol Watson, MD, PhD, FACC
Professor of Medicine/Cardiology, University of California, Los Angles
Association of Black Cardiologists

Dr. Karol Watson received her MD at Harvard University and completed her Internship, Residency and Fellowship in Cardiovascular Medicine at UCLA. She is an attending cardiologist and a Professor of Medicine/Cardiology at the David Geffen School of Medicine at UCLA. She is Director of the UCLA Women's Cardiovascular Health Center, the UCLA-Barbra Streisand Women's Heart Health Program, Co-Director of the UCLA Program in Preventive Cardiology, and Director of the UCLA Fellowship Program in Cardiovascular Diseases. Dr. Watson is a principal investigator for several large National Institutes of Health research studies including the Diabetes Prevention Program Outcomes Study and the Multi-ethnic Study of Atherosclerosis. She is a Fellow of the American College of Cardiology and a member of the American Heart Association. She is also

a Board member of the American Heart Association, Western States Affiliate, and Chairperson of the Scientific Advisory Board for Womenheart, the largest national organization for women survivors of heart disease.

Carla Weidner, DNP, FNP-BC, CLS, FACC, FNLA
Cardiac Nurse Practitioner, St. Luke's University Health Network, Bethlehem, Pennsylvania
American College of Cardiology

Carla Weidner is a Cardiac Nurse Practitioner and Clinical Lipid Specialist. She currently works in an outpatient setting while mentoring AP students as a clinical faculty member for local colleges. She received her Doctor of Nursing Practice from Misericordia University, Dallas, Pennsylvania, with her research focus being in Familial Hyperlipidemia. Her cardiovascular practice has been diverse including both acute and chronic care. Carla is a Fellow of the American College of Cardiology and is the current Chair of the ACC APRN Work Group. She is also an active member of the Cardiovascular Team Leadership Council and a past member of the Prevention of Cardiovascular Disease Leadership Council.

Sarah Billups, PharmD, BCPS
Associate Professor & Director of Population Health Pharmacy, Skaggs School of Pharmacy, University of Colorado Anschutz Medical Campus
American Pharmacists Association

Dr. Billups works within the Office of Value-Based Performance at University of Colorado Medicine, where her role is to lead development, implementation, and evaluation of population-management strategies to improve quality outcomes in the patients cared for by CU Medicine providers and clinical pharmacists. She also serves as Co-Director of the Quality Evaluation Support Team (QUEST), which supports evaluation of Medicaid-funded projects through CU Medicine to improve the care of the Medicaid population. She is interested in researching ways to deliver healthcare more effectively and efficiently using innovative care models, especially those involving pharmacists, pharmacy trainees, and technology.

Much of her population-health QI work relates to improving cardiovascular health. She has led implementation of a home blood pressure monitoring program for Medicaid patients, funded through a Medicaid Innovations grant that paid for the monitors. She also leads a quality improvement collaboration between patient navigators and clinical pharmacists to reduce clinical inertia in hypertension management, and has researched strategies to optimize use of statins for primary and secondary prevention.

Nathan Wong, PhD, MPH, FACC, FAHA, FNLA, FASPC
Professor, University of California, Irvine
Director, Heart Disease Prevention Program at University of California, Irvine, Division of Cardiology
American Society for Preventive Cardiology
InterAmerican Heart Association

Dr. Wong is a cardiovascular epidemiologist and specialist in preventive cardiology and Professor and Director of the Heart Disease Prevention Program, Division of Cardiology, UC Irvine. He has primary research interests including subclinical atherosclerosis and epidemiology and management of dyslipidemia and diabetes in relation to cardiovascular disease, including identification and intervention on gaps in quality of care for ASCVD and diabetes. He is a past/current investigator with numerous NIH observational studies on cardiovascular disease and clinical trials of lipid-lowering. He is an author on over 400 papers and co-editor of seven textbooks and co-editor in chief of the American Journal of Preventive Cardiology.

He is currently president of the InterAmerican Heart Foundation, a past president of the American Society for Preventive Cardiology and Pacific Lipid Association Chapter of the NLA, education committee chair and steering committee member of the NLA Teach ASCVD project, and current member of the American Heart Association's Know Diabetes by Heart Science Advisory Committee and American College of Cardiology diabetes and cardiometabolic workgroup.

Hilary K. Wall, MPH
Senior Scientist, Centers for Disease Control and Prevention
Million Hearts Science Lead, Centers for Disease Control and Prevention
Million Hearts

Hilary K. Wall, MPH is a Senior Scientist in the Division for Heart Disease and Stroke Prevention at the Centers for Disease Control and Prevention (CDC). Ms. Wall serves as the Science Lead for Million Hearts, a national initiative co-led by CDC and the Centers for Medicare & Medicaid services with the ultimate goal of preventing one million acute cardiovascular events in a five-year period. In this role, she leads a portfolio of scientific activities related to health care systems change, clinical quality measurement, health information technology, and their intersection with public policy. For 20 years, Ms. Wall has created evidence-based tools for and provided technical assistance to public health professionals, clinicians, and community-based organizations in cardiovascular disease prevention. Prior to coming to CDC, Ms. Wall served as an Epidemiologist for the Massachusetts Department of Public Health's Heart Disease and Stroke Prevention and Control Program and at the Yale Prevention Research Center, leading and analyzing data for randomized controlled trials in cardiovascular disease and diabetes.

Josie M. Scheindlinger (Chavez), MSN
Senior Project & Operations Manager, Health Resource in Action
National Association of Community Health Workers

Josie M. Scheindlinger started work with NACHW on December 16, 2021, as the Senior Project/Operations Manager. She received her Master of Science Degree in Nutrition (MSN) from University of Incarnate Word in San Antonio, TX and her Bachelor of Science Degree in Food and Nutrition (BSFN) from Centro Escolar University, in Manila, Philippines. Josie was born and raised in the Philippines and migrated to the USA when she was 21 years old. At 59 years old she has 2 adult children and 3 grandchildren. Her husband, Eric, retired in 2009 and moved from San Diego, CA to Yuma, AZ eleven years ago.

Josie has more than 30 years' experience in clinical and community nutrition, health, community leadership and organization. She worked as the Cocopah Indian Tribe THMP (Tribal Health Maintenance Programs) Director, administering the operations and management of their three major health maintenance grants. She also worked as their CHR Coordinator, which was facilitated using and sharing her knowledge, expertise, and extensive experiences to coordinate their COVID-19 Community Based Response Plan. This effort guides their CHW/CHR program through Indian Health Services in restructuring their Scope of Work to specialize in Maternal health, Disease Control and Health Promotions that led their CHRs to eligibility for applying to their CHW voluntary certifications.

Kim Stitzel, MS, RD
Senior Vice President, National Forum for Heart Disease & Stroke Prevention, Washington DC
National Forum for Heart Disease & Stroke Prevention

Immediate Past Chair of the National Forum; Ms. Stitzel recently held the role as the Senior Vice-President, Center for Health Metrics & Evaluation for the American Heart Association. Throughout her tenure at AHA, Ms. Stitzel served as Senior Vice-President, Preventive Health Markets, Vice-President, Kid's Market and Health Living Strategies, and as the Director of Nutrition and Obesity. Prior to joining the AHA, Ms. Stitzel served as a nutrition advisor to the Deputy Assistant Secretary for Health on federal nutrition policy at the Department of Health and Human Services. In addition, she co-authored the book, A Healthier You, and served on the joint HHS/USDA Dietary Guidelines management team, which facilitated the work of the Dietary Guidelines Advisory Committee and the 2005 Dietary Guidelines for Americans. Ms. Stitzel has a BS and MS in Nutrition from Virginia Tech, Blacksburg, VA.

Kaye-Eileen Willard, MD, FNLA
Chief of Staff & Internal Medicine Specialist, Ascension Health, All Saints Hospital, Racine, WI
National Lipid Association

Dr. Kaye-Eileen Willard received her MD from the University of Washington, School of Medicine, Seattle, WA. She completed an Internship at Sacred Heart Medical Center and a Fellowship in Internal Medicine at the University of Washington. She currently serves as Chief of Staff and is Internal Medicine Specialist at Ascension Health in Racine Wisconsin. She directs the Lipid Clinic and is the Physician Advisor for Quality Metrics. She is the Co-Editor of the Lipid Spin Journal for the National Lipid Association.

Lynn A Cardona, MS, RN
Senior Clinical Nurse Manager, Heart and Vascular Center at the Perelman Center for Advance Medicine
Penn Medicine, University of Pennsylvania Health System

Lynn A Cardona is the senior Clinical Nurse Manager at Penn Medicine's, Heart and Vascular Center at the Perelman Center for Advance Medicine. She has over 25 years of nursing experience in a variety of specialties, whose professional core values are patient centered care and data driven quality improvement. She attributes much of her success to being curious and dissatisfied with the status quo, seeking out opportunities that challenge the traditional approaches in healthcare, in the persistent pursuit to improve patient and family centered care and the systems that provide that care.

In 2012, Lynn developed and operationalized a unique nursing model, the Transition Coordinator, to improve transitions in care and the overall experience for cardiac surgery patients immediately following a hospital discharge. This involved a thorough discovery of the patient journey, collaborating with all members of the interdisciplinary team to identify high risk patient populations, then implementing and performing evidence-based, targeted interventions to improve care coordination and transitions from one setting to another.

She currently manages 25 ambulatory nursing staff, in several cardiology sub-specialties, and as the value of the transition coordinator was realized, Lynn now manages 6 transition coordinators, in the specialties of Heart Failure, Electrophysiology, Interventional, Cardiac and Vascular Surgery services of Heart & Vascular Service line at the Hospital of the University of Pennsylvania campus and the Heart and Vascular Center.

Yvonne Commodore-Mensah, PhD, MHS, RN, FAAN, FAHA, FPCNA
Summit Moderator
Associate Professor, Johns Hopkins Schools of Nursing and Public Health
Board Member, Preventive Cardiovascular Nurses Association

Dr. Yvonne Commodore-Mensah is an Assistant Professor at the Johns Hopkins Schools of Nursing and Public Health in Baltimore, MD. She earned her Ph.D. from Johns Hopkins School of Nursing, Master of Health Science in Cardiovascular and Clinical Epidemiology from Johns Hopkins Bloomberg School of Public Health and Bachelor of Science in Nursing from Fairleigh Dickinson University. She has expertise in cardiovascular disease epidemiology, health disparities, immigrant health, and global health. Her program of research seeks to reduce cardiovascular health inequities in African-descent populations through community-engaged research locally and globally. She is a Fellow of the American Heart Association, American Academy of Nursing, and the Preventive Cardiovascular Nurses Association. She received the American Heart Association (AHA) Martha N. Hill New Investigator Award in 2016 and is a member of the Council on Cardiovascular and Stroke Nursing of the AHA.

Linda G. Park, PhD, MS, FNP-BC, FAAN, FAHA
Keynote Presenter
Associate Professor, University of California, San Francisco
Research Specialist, San Francisco VA
Member, Preventive Cardiovascular Nurses Association

Dr. Linda Park is an Associate Professor at University of California, San Francisco and Research Specialist at San Francisco VA. As a nurse practitioner, she has worked in both outpatient and inpatient cardiology for over two decades. Her current clinical practice is hospital-based cardiology in the East Bay. Dr. Park's program of research is focused on secondary prevention of cardiovascular disease. Her research projects center around determining the most engaging, practical, and meaningful technology-based interventions to improve patient self-care, clinical outcomes, and quality of life for patients with ischemic heart disease and heart failure.

Sue Koob, MPA
Chief Executive Officer
Preventive Cardiovascular Nurses Association

Sue Koob, MPA, has been the Chief Executive Officer of the Preventive Cardiovascular Nurses Association (PCNA) for over 19 years. She is responsible for the overall management of PCNA and, with the aid of staff and volunteers, the strategic direction as well. She has a passion for promoting prevention and working with her board of directors and staff to increase the visibility of the important role nurses play in the prevention and management of cardiovascular disease. She received her Master of Public Affairs from Indiana University and her Bachelor of Science Degree in Biology from Kansas University. She was the 2015 recipient of the National Forum on Heart Disease and Stroke Prevention's Heart Healthy and Stroke Free Award and is a long-time member of the American Society of Association Executives. PCNA is headquartered in Madison, WI.

Joanna Dagenais MSN, RN, CCRN-K
Summit Planner
Director of Clinical Education
Preventive Cardiovascular Nurses Association

Joanna Dagenais MSN, RN, CCRN-K currently serves as the Clinical Education Director for the Preventive Cardiovascular Nurses Association (PCNA). Joanna works collaboratively with the PCNA team on the development and design of professional and patient education. Prior to joining a staff role at PCNA, Joanna's work experience included acute care nursing professional development and cardiovascular surgery critical care nursing. She received her MS in Nursing from Walden University. She received her BS in Nursing and BA in Spanish from Northern Michigan University.

Lyn Behnke, DNP FNP-BC
Assistant Professor, University of Michigan, Flint
Owner & Nurse Practitioner, Harmony Wellness Center
WomenHeart

Dr. Behnke is a graduate of the Mercy School of Nursing of Detroit and received her Bachelor's degree in Health Care Administration from Central Michigan University, Master of Science in Nursing (MSN) degree in Family Nurse Practitioner/Family Nurse Clinical Specialist from Michigan State, and a Doctor of Nursing Practice (DNP) from the University of Health Professions in Provo, Utah. She is a well-seasoned practitioner with extensive experience as a nurse, nurse practitioner, and educator. Her research interests include assisting to reduce falls in long-term care by screening and treating for vitamin D deficiency, heart disease in women, as well as heart failure and self-care for women. She is a heart patient and serves on the National Governing Board for WomenHeart while advocating as a WomenHeart Champion.

Marla Cowan
WomenHeart Champion
WomenHeart

Marla Cowan holds an MA in French Literature from the University of Illinois. She taught French, Spanish, and English for 31 years until her retirement. Following triple-bypass in 2006, she trained at Mayo Clinic to become a WomenHeart Champion, and is currently running support groups for women with heart disease. Marla was an active member of the Women's Board of Skokie Hospital and has served on an advisory board to the Department of Defense for women's cardiovascular issues.

Appendix B: Meeting Agenda

2022 ASCVD Key Opinion Leader (KOL) Meeting
Reducing Risk with a Patient-Centered Approach
Wednesday August 17th, 2022

AGENDA

9:00 AM (Central)	**Welcome and Overview of the Day** Yvonne Commodore Mensah PhD, MHS, RN
9:15 AM	**Introductions** KOLs - brief bio and organization's major concern/current focus regarding prevention and management of ASCVD (3-4 minutes each)
10:00 AM	**Keynote presentation** Linda G. Park, PhD, MS, FNP-BC, FAAN, FAHA
10:35 AM	Q/A
10:50 AM	Bio Break
11:00 AM	**Group 1 Discussion: Access to Treatment: Innovative Approaches** **Group 2 Discussion: Adherence to Treatment: Team-Based Care and Shared Decision Making**

- *Review challenges/barriers to improve ASCVD related health outcomes (see 2021 themes below)*
- *Identify the key stakeholders in promoting ASCVD health*
- *Share strategies/best practices to improve ASCVD health outcomes*

12:00 PM	**Group discussion: Successful Strategies/Best Practices**

- *Report out on strategies/best practices to improve ASCVD health outcomes*
- *Outline methods for organizational collaboration for the promotion of ASCVD population health*

1:25 PM	Wrap Up, Next Steps
1:30 PM	Adjourn

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- Amgen, Inc.
- Esperion Therapeutics
- Novartis Pharmaceuticals Corporation

Appendix C: Group Photo