Advanced Cardiovascular Risk Detection for the Critical Decades
Heart House Roundtable
Planning Grid

Welcome & Introductions

- Welcome participants and brief introduction of the PRIME-Heart initiative.
  - What are the "critical decades"?
  - Position roundtable as a refinement—not a rejection—of existing risk stratification models.
  - Emphasize the need to shift from "Who is at immediate risk?" to "How do we protect cardiovascular health over decades?" and why?
- Participant introductions + each person shares "What's the most overlooked risk signal/factor in your practice?"

Session 1: What's Working, What's Missing: CV Risk Models for Lifetime Benefit in the Critical Decades

Overall goal: Gain a better understanding of the strengths and limitations of current cardiovascular risk models and explore strategies to transition from a short-term risk focus alone to a long-term, lifetime benefit approach.

Talk title:	**Speaker:**	**Objectives / Notes:**
Strengths & Gaps of Current CV Risk Models	Ron Blankstein	Include discussion around short-term vs. lifetime tradeoffs
Emerging Tools for Early Detection: Imaging, Genetics, Biomarkers, AI for Lifelong Prevention	James Pirruccello	Touch on the lifetime *benefit* of starting early, rather than a risk-based approach Who gets what testing? When should genetics be relevant?

Draft Discussion Questions:

(3-5 questions per group to generate in-depth discussions; to encourage participants to identify, clarify, and prioritize issues; to uncover trends and differences across medical specialties and clinical practice settings; and to support participants as they propose possible solutions to address issues considered during the session (e.g., mobile/online tools, education sessions, patient resource materials).

Note: Discussion questions can either be the same for all groups OR groups can be divided by and discussion questions tailored to their area of expertise

- Does the current standard of care screen for cardiovascular disease early enough? What are "the critical decades" for *prevention* of disease for the adult patients in your practice?
- What are the implications of framing interventions as avoidance of disease (benefit) over treatment of disease (risk mitigation)?
- Current guidelines recommend treatment of hypertension at discrete thresholds with more aggressive treatment based on risk prediction models. How should other risk markers (lipids, BMI, etc.) be considered for those early in their life course?
- How should genetic risk be integrated into standard practice? Patients with Familial Hypercholesterolemia are treated beginning in childhood, but individuals with high polygenic risk can have similar risk – should prevention be started earlier in individuals with high polygenic risk for cardiometabolic conditions?
- What tools should preventive care of the future utilize (genomics, AI, imaging)? How soon should such tools become standard practice?

Briefing Materials:

- The Disquieting Plateau
- Genetic Variants that lower cholesterol even moderately over the lifetime dramatically lower risk of incident CAD; especially early onset MI
- Clinical Actionability of Polygenic Risk Scores
- Polygenic Risk Scores are highly predictive in younger populations
- Integrating Genetic and Inflammatory Risk with Traditional Risk Factors
- Applying Artificial Intelligence to CV Imaging for Improved Detection
- AHA Statement on AI in Cardiovascular Medicine
- AHA Statement on Polygenic Risk Scores
- ACC Statement on Inflammation and Cardiovascular Disease

Session 2: A Healthier Life Course and Longer Health Span – Bridging the Gap

Overall goal: Explore tools to predict risk across the life course – from 'health personas' to EHR-embedded calculators. How can we balance accuracy of prediction with ease of understanding and implementation of proactive management strategies?

Talk title:	Speaker:	Objectives / Notes:
Cardiovascular Health and Disease Across the Life Course – Many Roads to Rome	Sarah Urbut	- Explain different approaches to life course risk estimation - Share examples of different paths to disease, and how this relates to the "CV Personas" concept - Discuss how life course evaluation can update using genetics, individual lab and imaging values, and new diagnoses

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Discussion Questions

- How do we reconcile the tension between population-level risk models with individualized prediction, particularly when an individual may benefit from early intervention despite being classified as low risk?
- Can life-course risk prediction (or health prediction) be practically implemented? What barriers do you foresee to payers covering preventive therapies in otherwise "healthy" patients?
- How do we bridge lifetime risk reduction with the current state of risk management: Lower thresholds for medical therapy? Early age to start medical therapy? Public health efforts?
- What strategies should clinicians use to communicate cardiovascular risk and lifetime benefit in ways that engage patients and make prediction tools like genetics, AI, and imaging meaningful to their care?
- Should everyone receive a CAC score or CT coronary angiogram every 10 years beginning at age 40? Why or Why Not?

Briefing Materials:

- Bayesian Modeling of Disease Progression with Genomic Risk
- LIVE-CVD Lifelong Benefit Model
- SCOT-HEART Trial: 5-year outcomes, 10-year outcomes
- SCOT-HEART 2: Design and Rationale
- TRANSFORM Trial: ClinicalTrials.gov Registration
- Moving from Ischemia to Atheroma – The Lancet Commission
- Artificial Intelligence in Cardiovascular Care Transformation