Moving prevention further upstream: what will it take to shift the curve of cardiovascular disease?

BACKGROUND/CONTEXT

On April 8–9, 2026, the DCRI convened key stakeholders to address the challenge of early cardiovascular disease (CVD) prevention. Despite decades of evidence-based guidelines and an expanding array of preventive therapies, CVD remains the leading cause of death worldwide. A fundamental limitation of the current prevention paradigm is its largely reactive nature, addressing risk factors once they have reached abnormal levels and targeting people who have already developed anatomical disease and are at high short-term risk of clinical events. The objective of this meeting was to build consensus and generate actionable recommendations regarding optimal timing, target populations, clinical trial design, and regulatory considerations necessary to intervene on risk factors of CVD in people who are healthy but at elevated lifetime risk of CVD.

KEY TAKEAWAYS

- **CVD risk is associated with cumulative exposure to risk factors such as elevated blood pressure, cholesterol, obesity, and diabetes.** As such, preventing the onset of these risk factors at an early age would provide the greatest benefit over a lifespan. Even small interventions early on could have a compounding effect, leading to outsized benefits long term. At a population level, such an approach could truly "bend the curve."
- **Identifying individuals who are most likely to gain benefit from early treatment is critical.** Current risk-factor-based prediction models are skewed toward populations already at high risk, limiting the ability to prevent future disease in "healthy" individuals where the potential to alter their health trajectory is greatest. Alternatives may include early CV imaging to identify subclinical atherosclerosis decades before events and polygenic risk scoring, particularly in younger populations.
- **Earlier intervention requires engaging younger individuals to invest in cardiovascular health decades before benefits are realized, often with limited short-term incentives.** With the booming wellness market in the US and widespread availability of unregulated and unproven supplements, and persistent distrust of healthcare institutions, addressing perception will require novel and targeted engagement strategies.
- **Clinical inertia will be a challenge in prescribing preventive therapies.** Even among high-risk populations, utilization of and adherence to preventive and guideline-directed therapies remains suboptimal. Clinical encounters are time-constrained, and competing priorities often limit attention to prevention. Direct-to-patient options may be most effective if paired with a successful messaging.
- **Clinical trials in early CV prevention require innovative design and commitment.** Outcomes trials in these populations are difficult due to long timeframes and low event rates that increase cost and have long-term engagement and retention needs. This requires surrogate outcomes that will meet regulatory needs.
- **Regulatory approval to expand the indication for preventive therapy initiation into novel populations will be based on evidence of effectiveness, data-driven consensus among experts, and a favorable risk-benefit assessment.** Although prior studies regarding efficacy and safety in higher-risk populations may be considered, it is not always clear how the benefits and risks observed in a high-risk, older population can be extrapolated to lower-risk, younger populations. Additional studies are needed to define appropriate target populations and validate surrogate endpoints. Importantly, the evidentiary standard must be maintained.
- **At a macroeconomic scale, increasing the healthy life expectancy in the general population has the potential for large-scale economic benefit.** These benefits need to be extrapolated to demonstrate value for key stakeholders that drive clinical development and implementation.

ACTIONABLE ITEMS

- **Define target populations for early prevention.**
  Identify populations most likely to benefit, ranging from universal **treatment** to low-risk individuals with evidence of elevated lifetime risk based on clinical factors, imaging, or genetic profiling. Selection should balance potential benefits and risks and may differ by risk factor (e.g., cholesterol vs. hypertension).

- **Design efficient and informative clinical trials.**
  Develop regulatory-enabling study designs to evaluate the safety and efficacy of preventive therapies in lower-risk populations while addressing constraints related to cost, duration, and low event rates. Establish consensus on validated surrogate endpoints and bridging biomarkers.

- **Develop patient-centered engagement strategies for prevention.**
  Meet patients where they are, particularly younger populations with limited interaction with traditional healthcare systems. This may include community-based engagement (e.g., schools, workplaces), partnerships with public health organizations, and the use of digital platforms and social media to increase awareness and engagement.

- **Build longitudinal, system-independent data infrastructure.**
  Create longitudinal, health system-independent platforms to collect population-level health data relevant to CVD prevention. These systems may incorporate emerging technologies, including wearable devices, to enable continuous and proactive data collection outside traditional healthcare settings to inform population health-level prevention and disease data.

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