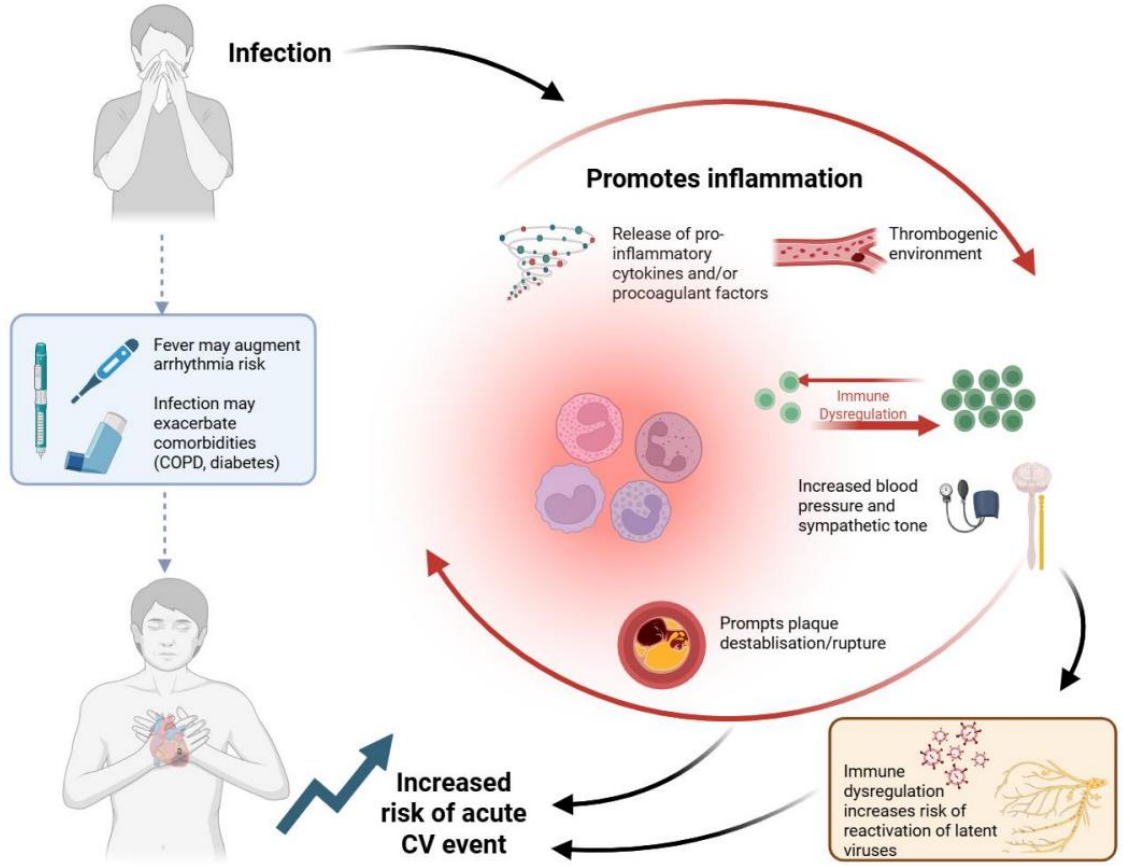
Defining the Global Disease Burden

Respiratory infections are more than acute illnesses; they are major contributors to long-term chronic dysfunction

- **Leading Global Threat:** Cardiovascular disease (CVD) remains the top cause of death globally.
- **Acute Trigger:** Infections are well-established triggers of acute CV events (MI, Stroke, Heart Failure).
- **Overlooked Impact:** Acute symptoms are recognized, but long-term neurological and cardiovascular repercussions are often overlooked.
- **Hospitalization Driver:** Infection precipitates up to 27.2% of Acute Heart Failure hospitalizations.



27%

AHF TRIGGER

#1

CAUSE OF DEATH

Ecarnot F.
Aging Clin Exp Res 2025;37:80

Respiratory Infection & CVD: Double Jeopardy

Infection → CV Event

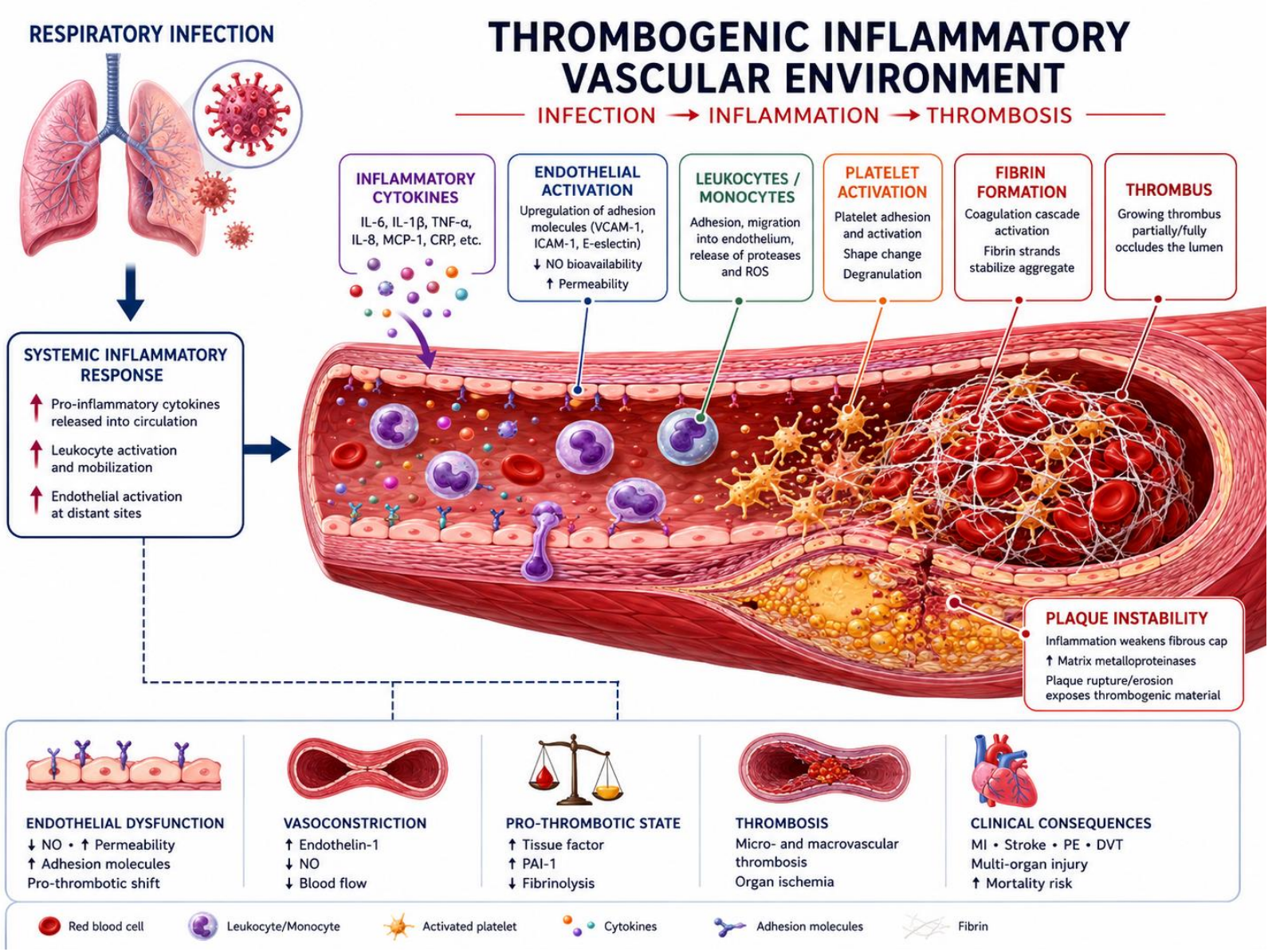
Systemic inflammation leads to **plaque instability** and acute coronary syndrome. Hypoxemia and pro-thrombotic states increase arrhythmogenic potential.

Core Mechanisms

Pathophysiological mechanisms include direct cardiomyocyte injury, proinflammatory cytokines, and sustained immune dysregulation.

NCD → Severity

Patients with heart failure are **8 times more likely** to be hospitalized for RSV. Comorbidities like diabetes exacerbate infection-related mortality.



Vaccination as Cardiovascular Prevention

Vaccines can reduce infectious triggers of cardiovascular events and should be integrated into routine risk management.

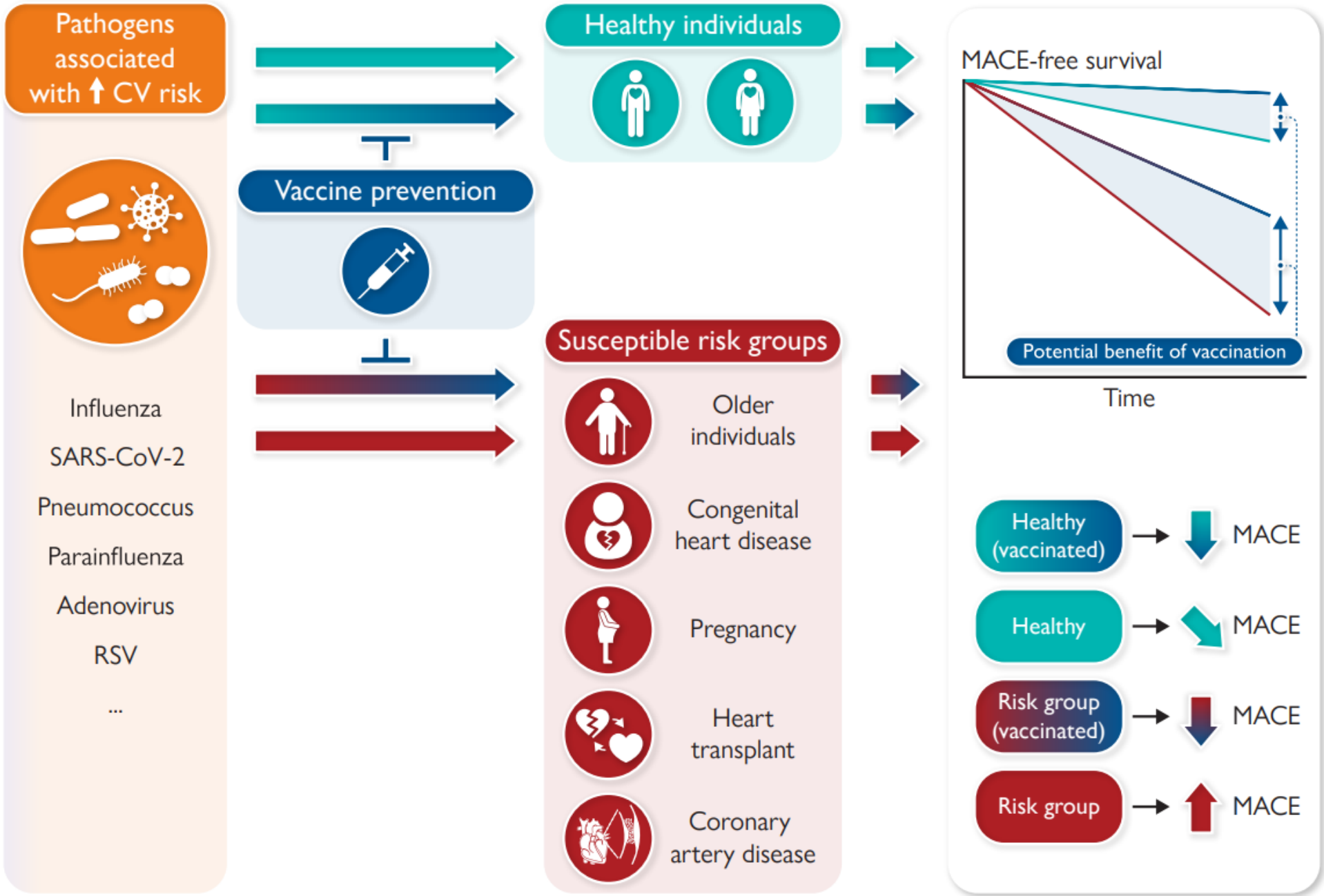
Vaccine Type	CV Clinical Impact	Reduction in Risk
Influenza	Prevents MI and MACE; magnitude similar to statin therapy.	**25%–45% (CV Death)**
Pneumococcal	Reduces trigger for stroke and chronic inflammation.	**27% (MI Risk)**
Herpes Zoster	Reduces vascular inflammation and stroke risk.	**43% (Stroke - RZV)**
RSV	Prevents decompensated HF and acute CV events.	**Emerging Data**

Unmet Needs & Gaps

- **Underused Strategy:** Vaccination remains an underutilized tool in secondary CV prevention.
- **Implementation Gap:** Class I recommendations exist (AHA/ESC) but are not yet sustained in routine NCD management.

Incorporate vaccination into standard cardiovascular risk management protocols.

Vaccination as a new form of cardiovascular prevention



Heidecker B.
Eur Heart J 2025
Vol 46, p3518