



World Hypertension League: education and awareness about the most important risk factor. An interview with prof Gianfranco Parati, president of WHL

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In this interview, Prof. Gianfranco Parati, President of the World Hypertension League (WHL), provides an overview of the global state of hypertension care, the mission of WHL, and the innovations and challenges in the field. The conversation spans health-care systems, digital health, treatment strategies, and future trends in hypertension management.

Role and mission of the WHL

Prof. Parati begins by explaining his leadership role within the WHL, a non-profit, non-governmental organization in official relations with the WHO. The League's mission is broad: improving hypertension management, providing education, reducing cardiovascular risk, interacting with national governments, and raising public awareness. Although the organization includes research activities, its primary efforts centre around global education, public health campaigns, and professional engagement.

The WHL operates entirely on voluntary contributions, and Parati expresses his enthusiasm for coordinating a global team. He has appointed a number of colleagues from all continents, whose tasks include preparing scientific documents, organizing educational webinars, and developing public awareness initiatives. One notable recent project is the development of a 'salt calculator' together with an Indian partner, enabling individuals to estimate their salt intake by filling in simple dietary information.

The WHL also organizes the biennial World Congress on Hypertension. The 2025 edition took place in India, while Parati's team is preparing the next event for May 2027 in Brazil.

Successful global hypertension initiatives

Prof. Parati shares concrete examples of impactful public health interventions. One particularly effective initiative occurred in the Dominican Republic, where the Minister of Health facilitated free access to essential antihypertensive medications. Moreover, he promoted the introduction of the WHO HEARTS initiative in the Dominican Republic, with technical support from the Pan American Health Organization. The WHO HEARTS programme is a global initiative to prevent and control cardiovascular disease in primary care settings. HEARTS is an acronym for: Healthy-lifestyle counselling, Evidence-based treatment protocols, Access to essential medicines and technology, Risk-based cardiovascular management, Team-based care, and Systems for monitoring. In the Dominican Republic, thanks to the Minister of Health, this project has become the foundation for Primary Health Care. The WHL recognized this achievement with an official award.

Another compelling case is a hypertension project in rural Rwanda, in collaboration with Swiss partners. Screening found around 1000 hypertensive individuals who had never previously consulted a physician. Despite an average hypertension control rate of only about 7% in sub-Saharan Africa, this project achieved an impressive **83% control rate**. The key ingredients were free, simplified treatment (based on triple single-pill combination), community health workers, and mobile phones enabling ongoing contact.

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Current global state of hypertension control

Hypertension remains the world's leading 'silent killer.' As Prof. Parati notes **1.4 billion** individuals globally have hypertension, but only **320 million** are adequately controlled. This gap underscores systemic failures in detection, diagnosis, and management. Hypertension control varies significantly by region. Still, most countries consistently struggle, and even high-income regions fail to reach desirable control levels.

Structural problems: diagnosis, measurement, and physician inertia

Insufficient diagnosis

Blood pressure (BP) is not consistently and accurately measured in clinical practice. Because hypertension is usually asymptomatic, failure to actively check BP means many individuals remain undiagnosed.

Poor measurement quality

Even when clinicians measure BP, accuracy issues are common. Proper device validation, protocol adherence, and repeated measurements are essential. The WHL and WHO emphasize the urgent need for standardized, accurate BP measurement practices.

Lack of risk-based approach

Hypertension rarely occurs alone. Many patients have comorbidities—diabetes, obesity, sleep apnoea, renal disease, or lifestyle-related risk factors. Therefore, clinicians should not only treat BP values but also address the patient's overall cardiovascular profile. A personalized, risk-stratified approach is crucial.

Physician inertia

This is a major barrier: doctors may measure BP but minimize abnormal findings or fail to adjust therapy. Overbooked general practitioners often lack time to counsel patients or review treatment plans. Inaccurate techniques, such as the use of non-validated automated devices and poor adoption of standardized BP measurement protocols, also persist in daily practice.

BP variability and out-of-office monitoring

A central theme of the conversation is the importance of acknowledging BP variability. Parati stresses that a single measurement is meaningless due to physiological fluctuations. Effective monitoring requires repeated office measurements, home BP monitoring, and ambulatory 24-hour BP monitoring, or a combination of them.

Excessive variability beyond physiological limits is itself a risk factor. Recent research shows BP variability predicts cardiovascular outcomes independently of the mean BP. Incorporating

variability into clinical decision-making can significantly refine risk assessment, although more evidence is needed that targeting an increased BP variability may improve outcome.

Digital tools and patient engagement

Prof. Parati emphasizes that digital health tools are becoming indispensable. They can address one of the greatest challenges: patient's adherence to prescribed treatment. Lifestyle changes, regular medication intake, and monitoring routines tend to diminish over time without sustained behavioural support.

In Italy, Parati is coordinating a government-supported programme involving **27 000 participants**. The trial (named CV-PREVITAL) compares usual care (doctor visits, lifestyle advice, prescriptions), vs. usual care plus a personalized smartphone application delivering tailored messages and collecting patient data.

The app individualizes communication, offering different messages depending on risk factors like weight, smoking status, diabetes, sleep disorders, and BP phenotype. Early expectations suggest significant improvements in adherence and outcomes. Digital tools, telemedicine, and simple communication channels strengthen the patient-physician connection, improving long-term disease control.

Interventional approaches: renal denervation

Renal denervation has regained scientific support as an add-on therapy for selected patients. While effective, Parati cautions that it should be reserved for specific cases and performed in expert centres. Most apparently resistant hypertension cases can be resolved through attentive communication, personalized adjustments, and adherence support.

Pharmacological innovations

Hypertension drugs have traditionally changed little over the past decades, but new developments are emerging: **optimized use of existing medications**, especially single pill combination therapies as first-line strategies, **new aldosterone synthase inhibitors**, targeting undiagnosed hyperaldosteronism, **endothelin-receptor antagonists**, **RNA-interfering drugs**, inhibiting hepatic angiotensinogen production and **SGLT-2 inhibitors**, **GLP-1 agonists and related agents**, which reduce weight and indirectly improve BP and metabolic parameters.

Despite these advances, Parati underscores that no treatment is 'magic'—personalization remains essential.

The overlooked role of sleep

Finally, Parati highlights sleep as a newly emphasized cardiovascular health factor. Since 2022, the American Heart



Association expanded its 'Life's Simple 7' to 'Life's Essential 8,' adding sleep quality and duration. Poor sleep or sleep apnoea activates the sympathetic nervous system and increases BP, contributing to treatment resistance. Recognizing and addressing sleep disturbances is crucial for holistic cardiovascular prevention.

These concepts have been addressed in detail in a series of papers, published in the *European Journal of Preventive Cardiology*, in the context of a special hypertension project¹⁻⁴

Author contributions

Paul Dendale (Conceptualization [lead], Validation, Writing—original draft [equal]), and Gianfranco Parati (Conceptualization, Supervision [supporting], Validation, Writing—original draft, Writing—review & editing [equal])

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