No. 181, September 2023

Note from the Editor

As we distribute this issue of the Newsletter, please accept our sincere thanks for the content submissions and recommendations. Our Newsletter’s mission is to provide resources and reports useful to those involved in global hypertension control and prevention. With this issue, we showcase exciting new initiatives and collaborations provided by WHL society members and partners. Featured sections ‘Hot Off The Presses’ and ‘Hypertension On The Ground’ provide novel efforts and practical information and evidence, and an ‘Opinion’ component has been added where individuals can address gaps, controversies and/or emerging issues in high BP prevention, treatment and control. Like the contributions for the many activities on World Hypertension Day and the Children’s Art Program, the Newsletter welcomes and appreciates the views and opinions of all in the WHL family.

Dan
WHL Newsletter Editor-in-Chief

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President’s Column

Dear Colleagues,

In this issue of the Newsletter, I want to comment on the “state of play” for high blood pressure (BP) treatment and control around the world. Obviously, we’ve made tremendous progress since diuretics were introduced as the first effective drugs for treatment of hypertension in the 1950s. Since then, efficacy trials have demonstrated the most effective nonpharmacological interventions for prevention and treatment of hypertension (weight loss, dietary sodium reduction and potassium supplementation, consumption of a heart healthy diet, physical activity, and abstinence or moderation in alcohol intake) as well as the efficacy of low-dose pharmacotherapy for prevention of hypertension and more intensive pharmacotherapy for treatment of high BP and prevention of cardiovascular disease (CVD).

This has translated into BP guideline recommendations to treat patients to an SBP of <120 to <140 mm Hg. The most recent BP guideline has been the European Society of Hypertension, which generally recommends an initial SBP goal of <140 mm Hg, with further reduction into the 130s if tolerated. Given the strength of the evidence and the consistency of guideline recommendations to treat adults with hypertension to at least <140 mm Hg one might reasonably expect a high and improving rate of SBP control to <140 mm Hg around the world1,2. Sadly, this is not happening in any country and in recent years control rates have deteriorated in the two
countries (Canada and the United States) that have long had the best rates of treatment and control.

Unfortunately, there is a huge disconnect between demonstration of treatment efficacy and its incorporation into clinical practice. Most recently, this has been vividly demonstrated during long-term follow up of the SPRINT participants but we’ve “seen this picture” on many previous occasions. I recall the widespread failure to use β-blockers after an acute myocardial infarction despite abundant evidence of benefit in multiple clinical trials.

This lack of translation from efficacy studies to clinical practice has important implications. First, it underscores the importance of taking advantage of implementation science to guide our treatment approaches. The extraordinary effectiveness of a simple but well-executed treatment strategy that incorporated major elements of implementation science was recently demonstrated in the China community health care workers led trial that resulted in a three-year SBP reduction >23 mm Hg and a correspondingly dramatic reduction in CVD and all-cause mortality.

The HEARTS initiative is also based on a strong science base for success in implementation and preliminary results are promising. In all of this, there is a clear message that our guidelines need to pivot from a primary publication that is comprehensive and provides a strong science base for treatment recommendations to a much shorter and more focused primary communication that emphasizes implementation and is supported by secondary documents that provide greater detail and are more comprehensive. It will be interesting to see how the European Society of Cardiology guideline, expected next year, and ACC/AHA BP guideline, expected circa 2025, will respond to this challenge.

As always, thanks to all of you for your continuing efforts to detect and treat high BP around the world.

Paul K. Whelton, MB, MD, MSc

For Letter and References click here.
Global Coalition for Circulatory Health

The Global Coalition for Circulatory Health recently published a position paper titled "The road to UHC: Why integration of circulatory health interventions in primary care is essential", ahead of the UN High Level Meeting on Universal Health Coverage on 21 September 2023. Circulatory diseases are the number one cause of death worldwide, despite being easily preventable mainly through lifestyle modifications and pharmacological treatment. The momentum offered by the UN High Level Meeting on UHC represents a critical opportunity for the global circulatory health community to advocate for governments to prioritize circulatory health in their UHC strategies and include circulatory health services at the primary health care level, as part of the progressive expansion of national UHC benefit packages. The paper provides a list of interventions for primary and secondary prevention of circulatory diseases that are deemed essential and cost-effective, based on available evidence from Appendix 3 of the WHO NCD Action Plan, PEN Package and HEARTS Technical Package, aimed at supporting decision-makers in the process of selecting interventions to include in their national benefit packages. A summary of the position paper is available here and can be used to strengthen national advocacy efforts on UHC and circulatory health.”

EXCELLENCE AWARDS WINNERS

“What do you consider to be priorities in the prevention and management of hypertension, and how does your work contribute toward addressing these priorities?”

Prof. Alta Schutte
Winner, 2023 Peter Sleight Excellence Award in Hypertension Clinical Research

Submitted by Prof. Alta Schutte, PhD, Professor of Cardiovascular Medicine, UNSW Sydney, The George Institute for Global Health, Australia

It is remarkable that consistent global reports confirm raised blood pressure to be the leading cause of death – with about 1 in 3 adults having hypertension in practically every region of the world. With only half of people with hypertension being aware of their condition, we all have a major role to play in finding novel ways to:
• prevent high BP from young ages onwards (salt substitutes, salt reduction in processed foods, increasing availability of fruit and vegetables, alcohol and tobacco restrictions)
• detect high BP early (teams of nurses, pharmacists, primary care doctors, community health workers to take BP at every possible opportunity, to screen on World Hypertension Day and May Measurement Month)
• treat BP effectively (highly effective and safe BP lowering drugs are available, but we need to treat most patients with two or three different drugs from the start and ideally in a single pill combination, and need team-based care in detecting, prescribing and monitoring)
• follow-up effectively (to provide medication for 3-6 months and follow up after at least 1 month to check BP again and be diligent in intensifying medication when BP is even close to 140/90 mmHg, to target 130/80 mmHg for most patients).

I am currently leading clinical trials to determine the effectiveness and safety of using salt substitutes in families in South Africa, and to determine the effectiveness of a strategy in

WORLD HEART DAY

Click here for more information.
primary care in using remote wearable BP monitoring with a simple treatment tool to overcome treatment inertia and lower BP in Australia. I am also involved in clinical trials on the effectiveness of using a new triple pill combination therapy to lower BP across the world. As for projects to increase awareness, I am leading a project to increase detection of BP in the community (through Health Station kiosks in a retail chain in Australia), and supporting projects to increase screening in high-risk populations, and across the world as part of the May Measurement Month Steering Committee. I am always excited to collaborate across the world and welcome any interest to join hands.

Dr. Prabhakaran Dorairaj

Winner, 2023 Claude Lenfant Excellence Award in Population Hypertension Control Through Guideline Implementation

Submitted by Dr. Prabhakaran Dorairaj, MD, DM, MSc, DSc

An estimated 1.28 billion people live with hypertension worldwide, including more than 200 million people in India. Given that hypertension is the major reason for stroke, coronary disease, heart failure and kidney disease, contributing to almost 10% of mortality worldwide, it is clear that better population-level hypertension control and health system reforms are needed. However hypertension is a disease of three paradoxes. It is easy to detect but the diagnosis rates are dismal, it is easy to treat but treatment rates are disappointing and while several potent drugs are available the control rates are abysmal. In India we are working on the following areas to reduce to burden of hypertension.

- Generating robust evidence on air pollution and other environmental pollutants in their causal role of hypertension for the governments to initiate actions to mitigate air pollution.
- Developing frugal technologies such electronic decision support systems and telemedicine platforms to improve access, availability and ease of care for better control of hypertension.
- Evaluating the role of marketing strategies to improve uptake of low sodium salt.
- Building capacity in research for hypertension and large scale training of primary care physicians through standardized in-person and virtual training programs.

Dr. Eduardo Nilson

Winner, 2023 Norman Campbell Excellence Award in Population Hypertension Prevention and Control

Submitted by Dr. Eduardo A. F. Nilson, DSc, PGCert

Reducing sodium intake at the population level remains a top priority in the prevention of hypertension in most countries, together with identifying and treating hypertensive patients.

After coordinating the Brazilian sodium reduction strategies for over a decade, my current work is focused on research related to diet-related non-communicable diseases, especially cardiovascular diseases, to support decision-making on more cost-effective health and nutrition policies. My studies in Brazil and in other Latin-American countries have addressed the estimation of the health and economic burden of excessive sodium intake and the impact of sodium reduction policies, such as food reformulation (including sodium reduction targets), front-of-package...
nutritional labeling, use of low sodium salt and health campaigns. Some of our recent findings corroborate other evidence that multi-component strategies are more effective than isolated interventions and that regulatory limits for sodium in key food categories are significantly more impactful than voluntary targets.

Dr. Sheila Martins
Winner, 2023 Daniel Lackland Excellence Award in Diplomacy and Advocacy for Population Hypertension Risk Reduction

In 2022, a public-private collaboration started to restructure cardiovascular care in primary healthcare in Porto Alegre, Brazil implementing the World Health Organization’s HEARTs program. With a core emphasis on early hypertension detection and effective management, the initiative extended to address diabetes, dyslipidemia, atrial fibrillation, and lifestyle risk factors.

My work together with Hospital Moinhos de Vento, a private hospital partner of the Ministry of Health, with a powerful alliance with the Pan American Health Organization and the city’s Health Secretary, created a committee of experts to adapt HEARTs protocols for local contexts, using free medication available within Brazil’s primary care framework. Anchored by a software enriched by artificial intelligence, the initiative gathered data, created intuitive monitoring tools, streamlined documentation, and guided care pathways.

After training healthcare professionals across 133 primary care units, blood pressure assessments surged from 20% to 75% within two months, indicating a remarkable transformation. The program holds immense potential to significantly reduce strokes, myocardial infarctions, and cardiovascular mortality.

WORLD HYPERTENSION DAY REPORTS
INDIA

Submitted by Dr. S.N. Narasingan, MD
WHL Vice-President, Chennai, Tamilnadu, India

I am happy to share about the Hypertension Public Awareness Program held in Chennai on 11th June 2023. Nephrologists, Physicians, Neurologists, Cardiologists & Diabetologists participated, with good interaction with the public, clarifying many aspects of hypertension in the local Tamil language & English with input from specialists. The program was attended by doctors, advocates, judges and other healthcare practitioners. A Pledge on Salt Reduction was signed by all attendees.

This activity was endorsed by the India and Asia Book of Records with a certificate of appreciation issued for creating the largest sentence on Hypertension, which was measured 55 feet length and 12 feet breadth, and included the World Hypertension Day theme “Measure your Blood Pressure, Control it, Live Longer”. The sentence was decorated with 3250 sticky notes.
300 people actively participated in the program, which was featured in prime time on Thanthi TV. News18 also covered the event as well as the Deccan Chronicle, the Indian Express & many other prominent newspapers, Youtube & TV channels.

A huge campaign was held at a central park near to the historical Si-o-Se-Pol bridge in Isfahan with diverse programs including blood pressure and sugar screening for 372 adults, lectures by two famous cardiologists, a breakfast ceremony, instructional games for kids, contests for teenagers and medical consultation for volunteers.

**Asia Book of Records full video link** here.

**Other links:**
- [https://youtu.be/PGlzHBR0Ox0](https://youtu.be/PGlzHBR0Ox0)
- [https://youtu.be/wS_tfu2L_Wc](https://youtu.be/wS_tfu2L_Wc)

**ITALY**

**Extension of 2023 World Hypertension Day Activities to Blood Pressure Measurement at High Altitude Campaign**

Submitted by Gianfranco Parati MD, FESC
President Elect, WHL

On 8 and 9 July 2023, as done in the last 7 years, in 50 shelters located on the Italian Mountains (either on the Alps and on the Apennine chain of mountains all across Italy), an awareness-raising campaign on arterial hypertension and on the blood pressure and cardiovascular effects of hiking or climbing at moderate to high altitudes was organised. This initiative is promoted yearly in association with World Hypertension Day activities and organized by WHL Volunteers from the Italian Society of Hypertension, the Italian Alpine Club, the Italian Society of Mountain Medicine, the Istituto Auxologico Italiano of Milan and the University of Milan-Bicocca, who offered educational information on cardiovascular risk associated with blood pressure together with blood pressure, heart rate and pulse oximetry measurements to all individuals reaching mountain shelters located at altitudes of 2,000 metres or higher. This was done in July rather than on May 17 because it is in summer that most people hike or climb in mountain regions.

**IRAN**

Submitted by Alireza Khosravi MD, Prof. of Interventional Cardiology, Head of Hypertension Research Center, Dir. of Cardiovascular Dept. of Isfahan Medical School, Isfahan Univ. of Medical Sciences

On World Hypertension Day, the Hypertension Research Center, Cardiovascular Research Institute in Isfahan, Iran, announced several campaigns via social media, held together with other organizations including the Isfahan Hypertension Association, the Heart Friends Scientific Association, and the Jahad Elmi Student Cultural Association and Health Ambassadors of Isfahan.
This awareness campaign is in line with other WHL activities aimed at combatting the high prevalence of arterial hypertension, the main risk factor for cardiovascular disease and death, worldwide. To prevent the occurrence of often fatal or disabling cardiac and cerebral events, more attention must therefore be paid to the behaviour of blood pressure in various conditions of our daily life, including ascent to mountain regions. Studies by Prof. Gianfranco Parati (President-Elect WHL and Scientific Director of Istituto Auxologico Italiano/University of Milan-Bicocca) have shown how blood pressure rises significantly during exposure to high altitudes (above 2000-2500 metres). Some blood pressure change can be seen even when climbing to moderate altitudes (around 1800-2000 metres). This occurs in normal individuals and also in patients already suffering from high blood pressure, raising the question of how to keep blood pressure under control even when climbing at high altitude, to ensure a safe and risk-free approach to the mountains for the cardiovascular system.

The 'Blood Pressure in the Mountains' awareness and prevention campaign aimed to promote better awareness of the reactions of the cardiovascular system, and in particular of blood pressure, under acute exposure to hypobaric hypoxia at moderate and high altitudes among the many people with or without cardiovascular problems who, especially in summer, hike or climb mountains. This initiative is relevant in a global perspective, given the high number of people ascending to high altitudes daily, for either leisure or work, in the world.

For references and full article click here.

**Myanmar**

Activities of the Myanmar Society of Hypertension (MMSH)
Submitted by Myint Han, MMSH President

Commemorating World Hypertension Day, the Myanmar Society of Hypertension (MMSH) performed nationwide activities in the following areas:

**17th May 2023**
- Hypertension public health education talk at the Ministry of Health Office, Nay Pyi Taw.
- Student Presentation at University of Medicine 1, Yangon.
- Hypertension public health education talk at University of Moulmein, Moulmein, Mon State.
- An article “Measure Your Blood Pressure Accurately, Control It, Live longer” written by Prof Ye Myint was published in the Global New Light of Myanmar national newspaper.

The Deputy Minister of Health, Myanmar attended the World Hypertension Day ceremony on 17th May 2023 at the Ministry of Health, Nay Pyi Taw.

A Hypertension public health education talk and blood pressure screening was held at Phar Moon village, Taunggyi District, Southern Shan State on 28th May.
18th May, 21st May 2023 and 4th June 2023
• Hypertension public health education talk and blood pressure screening at Myanmar Women’s Affairs Federation, Nay Pyi Taw
• Hypertension public health education talk and blood pressure screening at Myanmar Maternal and Child Welfare Association, Nay Pyi Taw
• “Hypertension Symposium 2023” at Melia Hotel, Yangon
• Hypertension Medical CME at Lashio General Hospital, Lashio, Northern Shan State

CHILDRENS ART PROGRAM NEWS
Journalist Erin Ross wrote an article on pediatric hypertension for *Science News Explores* using selected submissions from the WHL Children’s Art Program.

The article focused on steps children can take to improve their health. *Science News Explores* is run by the Society for Science, with most of its subscribers teachers and school libraries, and its target audience school-aged children, 5th grade to Middle School. Please click on the link here for the article and see all 2023 artwork submissions posted on the WHL website here.

2024 ART SUBMISSIONS NOW OPEN
Please click on this link to view this year’s instructions and download the submission form. Thanks to help from our hypertension colleagues, we hope to have an even greater turnout this year.

AMERICAN MEDICAL ASSOCIATION
Is there value in AMA MAP™ Hypertension for improving hypertension control globally?
Submitted by Brent M. Egan, MD and Michael K. Rakotz, MD, American Medical Association, 1Greenville, SC and 2Chicago, IL, USA

The need: Hypertension impacts 1.4 billion people globally with a higher prevalence, lower control, and greater mortality in low- and middle- than high-income countries. Simple, efficient, low-cost quality improvement programs are needed.

A potential solution: The American Medical Association (AMA) Measure accurately, Act rapidly, Partner with patients (AMA MAP™) Hypertension program may be a practical, scalable pathway to better BP control and includes:

Measure accurately to determine if hypertension exists and its severity. BP values that reflect intra-arterial pressure and usual daytime BP are important in determining if hypertension exists and its stage. The metric used for Measure accurately tracks the percentage of adults with an uncontrolled BP value that have another BP measurement at that encounter.

Act rapidly. Once hypertension is diagnosed and the stage established, a prompt and effective treatment plan is needed. The metric used for act rapidly tracks the percentage of patients with uncontrolled hypertension that have a BP medication added.

Partner with patients. An accurate diagnosis and effective treatment plan benefit patients who engage in self-management. The metrics used for partner with patients track the percentage of patients: with an uncontrolled BP that have: (a) follow-up BP documented within 30 days and (ii) a ≥10 mmHg fall in systolic BP at a follow-up encounter after a BP medication was added.

AMA MAP Hypertension program effectiveness. The AMA recently partnered with multi-site Federally Qualified Health Center in South Carolina, USA which serves a mainly rural, low-income, historically underserved population with
very high stroke rates. The Center and its patients have limited resources. The Center was initially concerned that the AMA MAP Program would overwhelm their resources but quickly found otherwise. During the 6-month active AMA MAP Hypertension intervention, hypertension control to <140/<90 rose from 64% to 75% among patients with two or more visits during the intervention. Hypertension control has continued to rise among all patients with hypertension in the subsequent year.

Scaling AMA MAP Hypertension globally. The AMA is collaborating with the WHL to explore provision of tools and resources that enable global partners to successfully implement AMA MAP Hypertension.

References:

Journal of Human Hypertension (JHH)
SPOTLIGHT

Therapeutic Potential and Renal Effects of Angiotensin Receptor-Neprilysin Inhibitors: Insights from Clinical Studies and Implications for Hypertensive Patients
Submitted by Yuichiro Yano,
Associate Editor Journal of Human Hypertension

Angiotensin receptor-neprilysin inhibitors (ARNIs) are a class of drugs that combine the actions of two different medications: an angiotensin receptor blocker (ARB) and a neprilysin inhibitor. ARBs block the effects of angiotensin II, a hormone that can constrict blood vessels, increase the release of aldosterone, and induce various other mechanisms that cause atherosclerosis. Neprilysin is an enzyme that breaks down certain natriuretic peptides in the body. These peptides have beneficial effects on the heart, such as dilating blood vessels, reducing fluid overload, and counteracting some of the harmful effects of other systems like the renin-angiotensin-aldosterone system (RAAS). By inhibiting neprilysin, neprilysin inhibitors increase the levels of beneficial natriuretic peptides in the body. By combining these two mechanisms, ARNIs can offer superior benefits for certain patients with heart failure (HF) compared to traditional treatments. One of the most well-known ARNIs is sacubitril/valsartan (brand name: Entresto).

The renal effect of sacubitril/valsartan has been reported in patients with heart failure (JACC Heart Fail. 2018;6:489–498). In a meta-analysis, compared to other RAAS inhibitors, sacubitril/valsartan significantly increased the estimated glomerular filtration rate (eGFR) and decreased blood pressure, suggesting that it may have renal benefits in patients with HF and CKD (Eur J Pharmacol. 2020;884:173444.). However, the renal effects of ARNIs in patients without HF (e.g., patients with hypertension) remain uncertain.

In a study at Keio University Hospital, Tokyo, Mitsuno et al. compared ARNI to thiazolidinediones (TZD)/RAAS inhibitor combinations in hypertensive
patients (J Hum Hypertens. 2023 Jul 24). It involved patients over 20 years old with uncontrolled hypertension who transitioned from RAAS inhibitor to ARNIs or added TZDs to RAAS inhibitors between August 2020 and June 2022. The primary objective was assessing the difference in eGFR changes between the two groups, with secondary focuses on changes in blood pressure, body weight, and other blood metrics. Of the 70 included patients, 31 (44%) took sacubitril/valsartan, while 39 (56%) paired TZDs with RAAS inhibitors. Over a 9-month observation, the ARNI group's eGFR slightly reduced from 55.2 to 53.7 mL/min/1.73 m², while the TZD/ RAAS inhibitors group witnessed a sharper decline from 55.4 to 50.1 mL/min/1.73 m². The ARNI group displayed a significant eGFR mean change of 3.71 mL/min/1.73 m² during this period, contrasted with the TZD/ RAAS inhibitors group.

Despite its insights, this study had limitations. The lack of patient randomization might have introduced biases. Its retrospective nature, relying on pre-existing data, may not account for confounding variables, making causality establishment challenging. With a sample of 70, its findings might not be widely applicable. External factors like medication adherence, lifestyle, diet, and other health issues might also influence the outcomes. However, the study underscores the promising therapeutic potential of ARNIs, especially for kidney function and other metrics in hypertensive patients, urging expansive and controlled future research.

Renal Denervation: A New Treatment for Hypertension on the Horizon
Michael A. Weber, MD, SUNY Downstate Health Sciences University, New York

Despite clear evidence-based guidelines on how to manage hypertension, control of blood pressure remains disappointingly poor throughout the world. Numerous effective and relatively inexpensive drugs for treating hypertension are available and there is good evidence for the benefits of lifestyle changes, but we have failed to adequately incorporate these resources into clinical practice. And while there is a growing focus on practical ways to remedy this problem, there is also interest in new device therapies for hypertension, particularly renal denervation, an intervention that appears to provide long-term blood pressure reduction.

What is renal denervation? It is a modern substitute for surgical sympathectomy. It is usually performed by an interventionalist who passes a catheter into the renal arteries and applies radiofrequency or ultrasound energy across the artery walls to ablate the renal nerves that run parallel to the arteries. Alternatively, a catheter can destroy these nerves by injecting tiny amounts of alcohol through the renal artery walls into the periadventitial space. How does this denervation work? Destroying the efferent fibers of the renal sympathetic nerves reduces renin production in the kidneys and increases sodium excretion; and destroying the renal afferent fibers that go to the brain can reduce systemic sympathetic activity (!).

Several randomized placebo (sham)-controlled clinical trials have demonstrated meaningful blood reductions in hypertensive patients, either when used as the only treatment for high blood pressure or when added to ongoing drug therapy. The procedure appears to be safe: there are very few symptomatic complaints and there is very little evidence for adverse effects on the kidneys or the cardiovascular system. An international long-term registry based on over 3000 patients treated for uncontrolled hypertension with renal denervation has shown reductions in office systolic blood pressure of about 15 mmHg and in ambulatory 24-hour systolic pressures of about 10 mmHg that have persisted so far for over 3 years (2). Simply put, renal denervation can provide long-term blood pressure reductions that do not depend on clinicians prescribing drugs or patients adhering to their therapy.

Clinical research has now advanced to where the US Food and Drug Administration is considering whether to approve this new therapy. Of course, we must ask how renal denervation could fit into hypertension management and for which patients will it be appropriate. Since this treatment involves an intervention, inevitably it will be more expensive than currently available drugs. But uncontrolled hypertension, regardless of its causes, leads to major stroke, coronary and
heart failure outcomes, as well as end stage kidney disease, all of which are costly both in human and financial terms. Guideline committees are starting to compose recommendations for how renal denervation could be incorporated into clinical practice, but ultimately it will be our collective experience that will determine how this procedure is utilized.

References:
Mahfoud F et al. JACC 2020; 75:2879-2888

HYPERTENSION ON THE GROUND
Self-Measured Blood Pressure Monitoring with Clinical Support Among Adults with Hypertension: A Pilot Project in South Carolina

Background
Hypertension (high blood pressure) is among the leading risk factors for cardiovascular disease, stroke, and kidney failure, and is directly associated with more than 10 million annual deaths globally. Outreach strategies, feedback to providers, and electronic health record (EHR) prompts of elevated blood pressure have been used to identify and treat patients with uncontrolled hypertension. Evidence supports the use of self-measured blood pressure monitoring (SBPM) with clinical support to improve blood pressure control among people with hypertension. Evidence supports the use of SBPM with clinical support to improve blood pressure control among people with hypertension. The 2017 American College of Cardiology/American Heart Association Guidelines recommend that the entire medical team be knowledgeable of skills and effectively informed on hypertension control to reduce disparities and achieve blood pressure control in patients.

Considering the current evidence, the South Carolina Department of Health and Environmental Control (SC DHEC), using funding from the Centers for Disease Control and Prevention, formed a collaboration and worked with the American Society of Hypertension (ASH) Carolinas-Georgia-Florida Chapter to develop initiatives that focused on clinical and patient approaches to managing hypertension. These efforts build on more than two decades of work by the Hypertension Initiative of South Carolina.

Methods
The first initiative focused on providing resources to staff participating in the Chronic Conditions Care Collaborative (4C Collaborative), a quality improvement learning collaborative. SC DHEC developed the 4C Collaborative to provide a space for healthcare teams to work together to improve hypertension detection, treatment, and control, for their patient population. As a part of the 4C Collaborative, ASH developed a section of the Quality Improvement Change Package to provide access to different resources associated with testing and adopting hypertension-focused change concepts. ASH developed educational modules to address various aspects of blood pressure control.

The second initiative involved developing a demonstration project with a local Rural Health Center (RHC) to explore the feasibility of implementing an SMBP program within their practice. The participating RHC was equipped with remote patient monitoring blood pressure devices using Bluetooth technology to integrate SMBP recordings into the EHR as an additional tool for blood pressure control. This intervention was supported by a well-trained interprofessional team led by a clinical champion.

Results
Subject matter experts provided technical assistance, guidance, and resources to teams participating in the 4C Collaborative to assist in testing and adopting change concepts through the Quality Improvement Change Package. Further, the subject matter experts developed education modules that addressed blood pressure measurement, hypertension treatment, management, control, and prevention strategies. With the help of a faculty that includes national and international experts, over 100 modules are available at https://www.scahec.net/learn/HTN and can be accessed at no cost for all healthcare providers.

The demonstration project reached 19 patients, of which six indicated using home devices and three of the patients reached either changed or started a medication regimen due to their blood pressure readings. Staff implementing the demonstration project indicated various barriers associated with
the SMBP device and its ease of use. First, the recruited RHC reported a significant number of technological barriers that impacted the patient such as, not owning a smartphone, not having an email, and lack of familiarity and comfort with using technology. Secondly, the RHC noted that the amount of time spent helping a patient acclimate to the new device was a challenge. There were also concerns regarding the accuracy of readings and whether cuffs were appropriately fitted for the participants.

Conclusions
Moving forward, healthcare teams can use the Quality Improvement Change Package to adopt processes and systems to sustain the use of SMBP with clinical support. Digital literacy among the patient population and increased access to a greater variety of blood pressure cuff sizes must be addressed to support the future implementation of SMBP programs in South Carolina.

Courtney L. Brightharp, DHSc
Rhonda L. Hill, PhD, MCHES®
Kristian Myers, MPH, CHES
South Carolina Department of Health and Environmental Control; Division of Diabetes and Heart Disease Management

For References and Full Article click here.

PUBLICATIONS & WEBINARS
An important open access paper was recently published in the Frontiers in Public Health by the Hearts Partner Forum: Supporting Implementation of HEARTS to treat and control Hypertension

The Hearts Partner Forum is a technical forum that supports the implementation of the HEARTS technical package with a current focus on managing hypertension in primary healthcare. The partners provide catalytic funding, technical support, capacity building, evidence generation, communication and advocacy to countries implementing HEARTS. Underpinning the partnership is the normative guidance created by WHO which is then endorsed by the partners, rendering to better downstream support, advocacy, communication, and dissemination of the recommendations.

NEW HOME BP MONITORING COURSE
PAHO/WHO announces their new Home Blood Pressure Monitoring Course empowering patients to self-control their BP and ultimately reduce patient-related clinical inertia and improve BP control. The Course can be accessed at this link and consists of an interactive module with:

1. an illustrated video
2. a link to online listings of properly validated (accurate) automated BP measuring devices
3. an illustrated guide on how to perform home blood pressure measurement
4. a printable 7-day HBPM log
5. a final quiz to test knowledge

It highlights the significance of increased blood pressure, the importance of proper blood pressure measurement technique, the step-by-step process to properly measure blood pressure at home, the factors that can lead to measurement error, why to measure blood pressure at home and how to interpret home blood pressure numbers, including when to follow-up and when to seek immediate action.

This course was partially funded by Resolve to Save Lives, an initiative of Vital Strategies, and by the Centers for Disease Control and Prevention (CDC) of the United States, with sponsorship by the World Hypertension League, the International Society of Hypertension, STRIDE BP, Hypertension Canada, the Lancet Commission on Hypertension Group, Québec Society of Vascular Sciences, and Resolve to Save Lives.
SCIENCE WRITERS CORNER

The Centers for Disease Control and Prevention, in collaboration with TEPHINET, hosts monthly professional development webinars to build the noncommunicable disease capacity of the field epidemiology training programs. From June to August 2023, WHL leadership Dr. Daniel T. Lackland, Dr. Michael A. Weber, and Dr. Paul K., Whelton presented “Building the Evidence: From Literature Search to Systematic Reviews and Meta-analyses”. They guided participants through the steps necessary for summarizing and analyzing scientific evidence on a specific research question. On average, 641 participants from 101 countries attended each session; 216 participated in all three sessions. These virtual webinars continue to draw crowds, confirming the demand for scientific writing, research, and communication tools. You can access recorded lectures using the links below to learn more about synthesizing the evidence.

Part I: Searching the Literature with a Research Question
Part II: Narrative Review, Scoping Reviews, and Systematic Reviews
Part III: Systematic Reviews and Meta-Analyses

Due to active participant engagement and the high volume of submitted questions to the speakers, the WHL has graciously added a 4th session scheduled on October 19, 2023, at 8:00 a.m. U.S. Eastern Time. The session will focus on “Submitting a Review Paper for Publication.”

Please use this registration link to attend.

NEWS FROM OUR PARTNERS

Emerging Authors Program Update

On July 18th, 2023, the Centers for Disease Control and Prevention, in collaboration with TEPHINET, hosted a virtual event to celebrate NCD publications from the field under the Emerging Authors Program for Global Cardiovascular Disease Research (EAP). The webinar featured 7 EAP authors who were mentored by CDC and the Lancet Commission on Hypertension Group researchers, and published their manuscripts in honor of the second World Field Epidemiology Day in the Preventing Chronic Disease (PCD) Journal. The authors shared a synopsis of their field projects. Additionally, they participated in a panel discussion and talked about their experience as mentees of the EAP. 199 participants from 57 countries attended this event. Since early 2020, the EAP has completed three waves of publication mentorship, publishing 33 articles from 32 emerging authors from low- and middle-income countries.

Coalition for Access to NCD Medicines

Alongside the World Health Assembly in May 2023, the Coalition for Access to NCD Medicines & Products gathered members and special guests for the annual Member Meeting and a side event, Towards UHC: Improving access to quality affordable NCD medicines & products. We were delighted to have Hon. Minister Jane Aceng, Ministry of Health Uganda, as the keynote speaker, along with our panelists Thomas Cueni, International Federation of Pharmaceutical Manufacturers & Associations; Dr. Jay Iyer, Access to Medicine Foundation; and Dr. Prebo Barango, WHO Afro region. The panel was moderated by Johnpaul Omollo, PATH.

During the keynote address, Hon Minister Aceng shared her perspective on what has worked, what the future holds, and what we, as a global community, need to prioritize to support supply security for NCDs. A panel discussion followed on increasing access to quality affordable NCD medicines and products. Panelists across sectors discussed topics such as the gap between forecasts and available funding, the opportunities and challenges for local manufacturing and pooled procurement and
how WHO, the private sector, governments, and entities such as the Access to Medicines Foundation can support access and affordability to quality NCD medicines and products. The call to action was clear: we need a coordinated and multisectoral approach at global, regional, and national levels to increasing access to quality affordable NCD medicines and products.

The Coalition has completed the NCD Forecasting Program in Ghana in partnership with the Ghana Health Service, creating a forecast for diabetes, hypertension, and mental health medications and products for the country. This September, the Coalition will be active at the UN General Assembly and the High-level Meeting on Universal Health Coverage. Learn more about our advocacy responses to the zero draft on UHC on our website.

The global, multisectoral Coalition for Access to NCD Medicines & Products advocates and provides technical support and tools to strengthen supply security for people living with noncommunicable diseases (NCDs). To learn more about the Coalition or to inquire about membership, please email Sara Gray at srgray@path.org.

Check out our website at coalition4ncds.org/ or follow us on Twitter at @CoalitionNcd.

ISH News

International Society of Hypertension

Register for ISH2024 – 19-22 September 2024, Cartagena, Colombia

For more information on the 2024 meeting, visit the ISH2024 website, follow ISH2024 on Instagram, Facebook and Twitter/X, and sign up for regular email updates about the conference.

Latest e-bulletins

Read the August and July e-bulletins from the ISH, and access the e-bulletin archive.

Discussing tough problems in hypertension on ESC TV

ISH President Professor Bryan Williams, appeared on the European Society of Cardiology’s online platform to discuss areas including treatment of resistant hypertension, treatment of fluctuating blood pressure, and management of patients with aortic stenosis and hypertension.

ISH and ESH explore guidelines in hypertension

In the second of two interviews exploring the development and impact of ESH and ISH hypertension guidelines, ISH Secretary Professor George Stergiou and 2023 ESH Guidelines Taskforce Member Professor Atul Pathak talk to ISH Communications Committee Chair Dr Anastasia Mihailidou, and Communications Committee Member Dr Dylan Burger.

The discussion covers the balance between practicality and ideal practice in guidelines, how differences in the delivery of healthcare in different settings influence the development of guidelines, sex and gender aspects of hypertension, and more. If you missed the first of
the recordings, you can watch it on YouTube. The videos are part of the ISH Communications Committee’s focus on the development of a range of resources for the purposes of engagement.

**ISH working alongside global partners to tackle the burden of hypertension**

A new paper outlines how a collaboration between the WHO and global organisations including the ISH – the HEARTS partner forum – is leading the fight to improve the detection, treatment and control of high blood pressure globally.

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**EDUCATIONAL SERIES**

**How to Spot a Predatory Journal to Protect Your Research**

Submitted by the U.S. Centers for Disease Control and Prevention (CDC)

Predatory journals are deceptive and unethical publications that significantly threaten the scholarly publishing process. They share several key characteristics:

- **Lack of rigorous peer-review processes:** They often claim to offer peer review but do not follow thorough peer-review processes. Unlike reputable journals that subject submissions to critical scrutiny by experts in the field, predatory journals often accept articles without proper evaluation, leading to the publication of low-quality or even pseudoscientific content.

- **Aggressive solicitation:** They send unsolicited emails to encourage manuscript submissions.

- **Quick Publication:** They often promise rapid publication; this short turnaround time can appeal to you, but it often sacrifices quality control.

- **Low or Hidden Fees:** They might charge a lot of money to publish or surprise you with hidden fees until the manuscript is accepted.

- **Lack of Transparency:** They often lack clear editorial boards, publication policies, and contact information. Legitimate journals typically provide transparent information about their editorial processes and the qualifications of their editors.

- **Fake Impact Factors:** Some may falsely claim high impact factors but are often fabricated or not recognized by reputable indexing services.

- **Poor Website and Design:** Many have poorly designed websites, spelling errors, and grammatical mistakes, indicating their lack of professionalism and legitimacy.

While quantifying the exact numbers of predatory journals is difficult, over 11,800 were identified in 2015. It is important to be cautious when selecting a journal. Here are some criteria to consider:

- **Check Directory of Open Access Journals (DOAJ):** Journals listed in the DOAJ are typically considered trustworthy.

- **Verify the Journal’s Indexing:** Reputable journals are often indexed in well-known databases like PubMed, Scopus, Web of Science, or Google Scholar.

- **Use Beall’s List:** It includes a list of potential predatory publishers and journals.

- **Check Cabell’s Blacklist:** Cabell’s Scholarly Analytics offers a blacklist of predatory journals.

- **Review the Journal’s Website:** Examine the Journal’s website for professionalism and transparency. Look for clear editorial boards, publication policies, contact information acceptance/rejection rates, and peer-review process.

- **Verify the Impact Factor (IF):** Use the official Journal Citation Reports database to confirm the claimed IF.

- **Seek Recommendations:** Consult advisors, colleagues, and librarians. They may have experience with reputable journals in your field and can provide recommendations.

Determining a journal’s legitimacy may require some investigation and critical thinking. When in doubt, seek advice from reliable sources to avoid harming your research and reputation.
LETTER TO THE EDITOR/OPINION

The Critical Need for High Quality Research on Dietary Sodium

Two coalitions of major international and national health and scientific organizations were formed to regularly review all research on health outcomes associated with dietary sodium and to make recommendations on minimum standards for the conduct of research on dietary sodium (1-3).

The regular review (Science of Sodium) was recently disbanded, in part, because very little high-quality research was being performed. However, studies with low quality methods prone to spurious results were frequently published, many even in high impact journals. Such a phenomena is complicated because the publishing of low quality studies controversial research was combined with several journals declining to publish letters and commentary critical of the low-quality research results or allowing misleading and incomplete rebuttals (4, 5). A recent manuscript was highly critical of the publications in the European Heart Journal and was followed by a formal complaint about the journal to the European Society of Cardiology (4). The other manuscript reviewed issues causing controversy including financial interests of the authors, low quality research methodology, and the publication and presentation of misleading information on dietary sodium (5).

A series of reviews and recommendations on methods for research on dietary sodium were made and published by the TRUE coalition. (1, 6-10). However, recent publications indicate these recommendations by and large have not been followed by investigators or applied by journals in the manuscript review process. Authors frequently (mis)use methods to assess dietary sodium in individuals that may have validity for assessing population mean sodium intake but are invalid (because of high random and or high systematic error) for assessing sodium intake in individuals.

While many researchers support the need for high quality randomized controlled trials on the effects of dietary sodium on fatal and non-fatal outcomes, such trials are very difficult to do well. Low-quality randomized controlled trials that have ineffective interventions and inadequate descriptions to ensure the quality of the intervention can be discerned are not helpful in providing evidence for clinical and population health. In fact, such research is harmful, and it is critical all data be available to allow an independent assessment of scientific integrity, study quality, and replication of analyses (11).

The reasons for sustaining the false controversy about sodium intake and health are many: conflict of interest (often not declared), commercial bias, lack of public access to raw data, flawed and unremedied research practices, ineffective enforcement of rules on research ethics, and unchecked vested interests of scientific journals (4-5). Low quality research, and misinformation on dietary sodium are commonplace and undermine science and public health efforts to improve population health. Thus, it is critical for all research of dietary sodium to maintain the high integrity, transparency and reproducibility expected of all studies. The public interest in the prevention and treatment of cardiovascular disease requires no less.

Norm RC Campbell, Professor Emeritus, University of Calgary
Francesco P Cappuccio, Professor, University of Warwick, WHO Collaborating Centre for Nutrition

For references click here.

UPCOMING MEETINGS OF NOTE

World Stroke Conference WSC 2023
October 10-12, 2023
Toronto, Canada

The program for the 2023 World Stroke Congress will feature the latest topics in stroke and cerebrovascular disease and is being prepared for all stroke professionals, researchers and policy makers across the continuum of stroke care. The structure of the program will facilitate discussion, learning and networking opportunities. We will focus on diversity, equity,
The World Stroke Organization and the Canadian Stroke Consortium look forward to hosting you in October 2023 for the 15th World Stroke Congress in Toronto! To register click here.

Click here for more information on World Stroke Day.

World Health Summit

Join leading international representatives from politics, science, the private sector, and civil society at this year’s World Health Summit from Oct. 15-17 in Berlin under the theme “A Defining Year for Global Health Action”.

Climate change and health, digital technologies for global health, pandemic prevention, the global health priorities of the G7/G20 nations, and the 75th anniversary of WHO are the focus of this year’s World Health Summit. More than 300 speakers and 4,000 participants from all over the world are expected on-site to set the agenda for a healthier future.

How to Register for the WHS

Your registration code for on-site participation is available on the registration site here. For our partners: the registration codes will be distributed by our partner organizations directly. The entire program will also be available live online for free for people around the world who may not be able to attend the event in person. The WHS 2023 online program offers all details on the 60+ sessions here.

The 2023 Virchow Prize for Global Health, awarded under high patronage of Bärbel Bas, President of the German Bundestag, will be bestowed upon Prof. Rose Gana Fomban Leke for her distinctive and exceptional lifetime achievements comprising outstanding contributions to global health, pioneering infectious disease research towards a malaria-free world and relentless dedication in advancing gender equality.

The festive award ceremony takes place on Saturday, October 14, 2023, in the Berlin City Hall (Rotes Rathaus), the eve before the opening of the World Health Summit (WHS). The Virchow Prize is endowed by the non-profit Virchow Foundation for Global Health.

Follow @virchowprize on their social channels to not miss any updates and watch the livestreamed celebration at: virchowprize.org/2023-award-ceremony. More information on the foundation and the prize: virchow.foundation

Hypertension Seoul 2023/59th Scientific Meeting of the Korean Society of Hypertension

Hypertension Seoul 2023 in conjunction with the 59th Scientific Meeting of the KSH will be held in Conrad Hotel, Seoul, Korea on 3-4 November 2023. The theme of this year’s symposium is “Blood Pressure Management and Perspectives for Centenarian Era”.

The Registration Deadline is October 11 and you can view the Program and Register here.
FREE ONLINE COURSE (ASYNCHRONOUS)
20th PSH on the Fundamentals of Clinical Hypertension

The Philippine Society of Hypertension invites you to the 20th Course on the Fundamentals of Clinical Hypertension. Learn from renowned experts about hypertension and its related disorders online. In a rapidly evolving field such as medicine, staying updated with the latest advancements is not just an option, but a necessity. So learn with us, enhance your knowledge, and become a hypertension specialist! The online course (asynchronous) consists of seventeen (17) modules and commenced on September 9, 2023 up to December 30, 2023 (1 module per week) via the PSH website: www.philippinesocietyofhypertension.org.ph

All modules CAN BE ACCESSED ANYTIME within the said period. To begin, please visit the site here.

PAST MEETINGS OF NOTE

WSO Global Policy Committee Webinar: WHO HEART Program, Collaboration in Action

On 29th June 2023, an enlightening webinar was held by the World Stroke Organization on the pressing issue of hypertension control and the innovative solutions it demands. The speakers were Dr. Taskeen Khan (World Health Organization, Department of NCDs, Medical officer cardiovascular diseases) and Dr. Daniel Lackland, DrPH, FAHA, FACE (Professor, Director, Division of Translational Neurosciences and Population Studies, Department of Neurology, Medical University of South Carolina, Charleston, S.C., Past President, World Hypertension League).

The two lectures presented were “Stroke Risks and Implications for Hypertension Control: An Ongoing Pandemic and Call to Action” and “HEARTS: A public health approach to managing hypertension in primary care to reduce morbidity and mortality from stroke and other comorbidities.” The feedback received was overwhelmingly positive, with a high number of registered participants (~ 400), and approximately 100 joining the live session.

The recording of the webinar can be found at this link.

6th IqHS International Conference
Submitted by Dr Samer M Yousaf

The Iraqi Society for Hypertension held its sixth international conference on 4-5 August on the grounds of the Babylon Hotel.

This year, the conference was distinguished by Arab and international participation. Dr. Jaafar Al-Sayed, representative of the International Society of Hypertension, conducted a panel discussion on an Internet platform on hypertension in the Middle East and North Africa, in cooperation with Dr. Abdullah Shehab and Dr. Habib Tarif. It also included another panel discussion on the role of Arab hypertension societies on hypertension control within the scope of the Arab countries. The conference included a poster session and it was regarded as highly successful by the attendance testimonials."
Hypertension is a leading preventable and controllable risk factor for cardiovascular and cerebrovascular diseases and the leading preventable risk for death globally. By 2025, the adult population with hypertension is predicted to increase by about 60% to a total of 1.56 billion, with a disproportionate increase in sub-Saharan Africa.

The Call for Action to Control Hypertension in Africa has been proposed by the WHL and to further strategize on the way forward for Africa, a conference titled “African Control of Hypertension through Innovative Epidemiology and a Vibrant Ecosystem (ACHIEVE)” was put together by African Research Universities Alliance (ARUA), University of Ibadan Centre of Excellence in Non-Communicable Diseases, in partnership with WHL and Resolve to Save Lives (RTSL). The ACHIEVE conference aimed to develop and deploy pragmatic solutions through interventions tailored to navigate barriers and enhance facilitators to deliver maximum impactful hypertension control and co-create strategies for implementation of the ten key recommendations for accelerated hypertension control in Africa.

In his welcome remarks, the honourable Minister of Health in Ghana, Prof Kwaku Agyeman-Manu noted that hypertension is a major cause of morbidity and mortality in Africa which requires member states to develop NCDs strategies and control interventions. Accelerating hypertension control in Africa will require member states to develop comprehensive policies and improved access to care and affordability as defined in the Universal Health Coverage of ‘Leaving No One Behind’. In summary, he stated that hypertension control cannot be effective within the health sector alone without addressing specific underlying determinants, wherein recommendations should be generated and disseminated by ACHIEVE to the ECOWAS and African Union for adoption by all member states.

In a keynote lecture titled ‘How to Improve Hypertension Management in the XXI Century’ delivered by Prof Gianfranco Parati (Milano University, Italy; WHL President-Elect), he noted that hypertension is the number one cause of global burden of disease with high blood pressure projected to remain the leading risk factor till 2040. He recommended office and out-patient BP measurement be combined while home BP monitoring should be performed by all treated hypertensive patients, ambulatory BP monitoring done at diagnosis and during follow-up. He stressed the importance of adherence in the still, less than a third of African adults are aware of their hypertension status, and only 18% are on medications. Furthermore, BP is controlled in just 7%, leaving a substantial proportion of Africans at risk for complicating cerebrovascular and cardiovascular events.
control of hypertension through simplification of treatment, improved tolerability, home BPM, patients’ education, and digital/mobile health technology. He acknowledged factors in Africa such as unhealthy diet, physical inactivity, tobacco/alcohol use and obesity as well as emerging risk factors of ambient pollution, massive urbanization, systematic deforestation and other social and commercial issues.

Dr. Paul Olowoyo provides an overview of ACHIEVE.

An overview of ACHIEVE was delivered by Dr Paul Olowoyo, Associate Professor of Medicine and Consultant Neurologist, Federal Teaching Hospital, Ido-Ekiti, Nigeria. In his presentation, he recommended innovative epidemiology using mobile health automated technologies and a vibrant healthcare ecosystem whose overall effect is to change populations behaviour. Following his presentation were plenary sessions where renowned experts shared their various evidence-based findings and effective practical approaches with respect to hypertension across Africa.

The second day of the conference saw a continuation of plenary sessions including Resolve to Save Lives, World Health Organization, among others. These sessions were engaging and offered opportunities among participants for cross-fertilization of ideas on best practices towards controlling the burden of hypertension across African countries.

As an all-inclusive meeting, persons living with hypertension were given the forum to express their concerns and make recommendations as to how to address hypertension management in Africa. Representatives from Nigeria, Rwanda, and Kenya participated (both physically and virtually) in this discussion session. A Committee was constituted to review these recommendations and assemble into a Communique for publication and dissemination to ECOWAS, African Union and other relevant organizations.

A cross-section of participants with Ghana Minister of Health, Prof Agyeman-Manu (5th, sitting row)

Another highlight of the conference was an Excellence Award presented to the honourable Minister of Ghana, Prof Agyeman-Manu for his outstanding contributions to the health sector.

The conference was weighted as a very successful one (with over hundred and ninety registered participants – virtually and in-person) with representation from multiple African Countries, various International Hypertension and Cardiovascular Societies and Organizations, media and academic organizations.

Additional information regarding this conference can be accessed via the following links:
https://m.youtube.com/watch?v=Qbl2U9YVJFU
https://tribuneonlineng.com/hypertension-how-african-countries-can-save-lives/

LINKS OF NOTE

LINKS is a collaborative effort of the World Health Organization, the U.S. Centers for Disease Control and Prevention and Resolve to Save Lives, to improve cardiovascular health globally.

♥ WHO Essential Medicines List (EML) for Hypertension Combination Therapy
♥ NCD Alliance Newsletter: Click here
♥ WSO Newsletter: Click here
### Calendar of Events

<table>
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<th>Event</th>
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<td>Global Week for Action on NCDs</td>
<td>September 14-21, 2023</td>
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<td><a href="#">Click here for more information</a></td>
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<tr>
<td>World Heart Day</td>
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<td>World Health Summit</td>
<td>October 15-17, 2023</td>
<td>Berlin, Germany</td>
<td><a href="#">Click here for more information</a></td>
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<tr>
<td>Hypertension Canada</td>
<td>October 23-24, 2023</td>
<td>Montreal, Canada</td>
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<td><strong>WORLD STROKE DAY</strong></td>
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<td>Hypertension Seoul 2023/S9th Scientific Meeting of the KSH</td>
<td>November 3-4, 2023</td>
<td>Seoul, Korea</td>
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<tr>
<td>American Heart Association</td>
<td>November 11-13, 2023</td>
<td>Philadelphia, PA, USA</td>
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<td>ISN World Congress of Nephrology (WCN)</td>
<td>April 13-16, 2024</td>
<td>Buenos Aires, Argentina</td>
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<tr>
<td>6th Hypertension Congress 2025</td>
<td>February 21-23, 2025</td>
<td>Chennai, India</td>
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### Mission

The objectives of the WHL are to promote the detection, control and prevention of arterial hypertension in populations. The World Hypertension League (WHL) is a federation of leagues, societies and other national bodies devoted to this goal. Individual membership is not possible. The WHL is in official relations with both the International Society of Hypertension (ISH), and the World Health Organization (WHO).

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### Editorial Office:

- Editor-in-Chief: Dr. Daniel Lackland
- Associate Editor: Dr. Detlev Ganten
- Associate Editor: Mary L. Trifault
- E-mail: whleague17@gmail.com

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