ADHERENCE IN HYPERTENSION

PART 3: HOW TO ACHIEVE ADHERENCE

Is my patient ready for antihypertensive medication?

A paradigm shift in medication implementation and adherence

CESAR ROMERO

Division of Renal Medicine, Emory University-School of Medicine, Atlanta, GA, USA

The Old Assumptions

We physicians were trained to prescribe, and to believe that patients would simply follow our instructions. The old paternalistic model of medicine assumed compliance as a given: the physician prescribed, and the patient obeyed. Reality tells a different story. In hypertension and other chronic diseases, between 20% and 50% of patients do not take their medications as prescribed.[1] What's worse, most physicians don't even suspect it.[2] Both doctor and patient believe that prevention is in place, when in fact, it's not. It's the perfect storm for a silent disaster.

When non-adherence is finally discovered, most of us are not prepared to address it.[2] We may try persuasion through fear, blame the patient's "lack of discipline," or shrug and say, "it's their choice." But behavioral science shows that none of these work.[3] It's time to move from prescription as reflex to prescription as partnership.

Borrowing Lessons from Other Fields

Our colleagues in bariatric surgery won't operate unless a multidisciplinary team (psychiatrists, nutritionists, social workers) confirms that the patient is psychologically and socially ready.[4]

Tobacco cessation therapy also follows a clear logic: pharmacological intervention begins not when the patient wants to quit, but when they are ready to quit.[5]

> ***"Perhaps the next revolution in hypertension care won't come from a new drug, but from learning to ask: Is my patient ready?"***

So why should hypertension be different? Before prescribing, shouldn't we ask: Is my patient ready for this intervention? And if not – how can I help them get there?

The Science of Readiness: Behavioral Frameworks

Behavioral science offers several frameworks for understanding and improving adherence (**Table 1**).[3] No single model fits all patients, but each helps us see the main drivers of adherence and how to intervene.

Social Cognitive Theory (SCT)[6] emphasizes self-efficacy, the patient's belief in their ability to manage their disease. Without it, adherence rarely happens. The COM-B model identifies three core components of behavior: Capability, Opportunity, and Motivation. If one is missing, adherence will fail. The Health Belief Model focuses on perceived risk, benefits, and barriers, showing that patients act when they believe the benefits outweigh the costs. The Transtheoretical Model (TTM) reminds us that change is a process, not an event – patients move through stages from precontemplation to action and maintenance. Self-Determination Theory (SDT) adds an essential dimension:

autonomy. When motivation comes from within, because the patient feels in control, adherence becomes sustainable.

These frameworks teach us that adherence is not binary; it evolves through stages and depends on dynamic interactions between personal capability, motivation, and the environment.

From Initiation to Maintenance

Adherence unfolds in stages: initiation, maintenance, and discontinuation, each with its own vulnerabilities.

Initiation: Readiness and self-efficacy are essential. If a patient is not ready, starting medication too early can backfire.

Maintenance: Social and environmental factors, family support, stigma, and cultural norms strongly influence persistence. The support of an integrative health system that retains the participants is highly important.

Discontinuation: Motivation wanes over time. Addressing doubts and side effects early can prevent dropout.

Across all stages, motivation and capability form the core. Social networks, health literacy, and system support build the scaffolding that sustains adherence.

The Socioeconomic Dimension

Beyond psychology, social determinants of health (education, income, housing, food security) shape adherence profoundly.[7,8] For many patients, the daily decision is not whether to take a pill, but whether to afford one. Education and income affect understanding of disease, perceived control, and the ability to prioritize treatment. Patients facing social vulnerability such us migrants, displaced persons, or those in crisis, may experience barriers that no amount of counseling can fix without structural support.

Mental health adds another invisible layer. Depression, anxiety, or cognitive decline may appear as "noncompliance" but in fact reflect diminished motivation or memory. Addressing mental health may be the first step toward adherence.

Family and community values are equally critical. When aligned around prevention and wellness, they amplify adherence; when stigma or fatalism dominate, they erode it.

Health Systems and Scientific Societies: The Bigger Picture

Adherence is not a private issue between patient and doctor – it's a systemic challenge.

Health systems can foster or frustrate adherence through access, affordability, and continuity of care. Simplified regimens, like single-pill combinations, have shown clear benefits. Lowering medication costs, ensuring consistent supply chains, and engaging community health workers are proven strategies.

Scientific and professional societies also play a crucial role. The World Heart Federation roadmap, the International Society of Hypertension (ISH) initiatives, and the ISH Cartagena Declaration all emphasize adherence as a cornerstone of global cardiovascular prevention. The Heart program from the Pan-American Health Organization (PAHO) is an extraordinary example of how scientific and public health organizations can develop implementation programs to decrease the gap in blood pressure control.[9]

Training healthcare professionals to recognize behavioral and social barriers is essential. Public health authorities and scientific organizations must collaborate to develop national programs that support clinicians and empower patients, going beyond reminders and apps to build true self-efficacy and readiness.

Practical Recommendations for Clinicians

Before writing a prescription, start a conversation. Explore the patient's beliefs, fears, and motivation.

> ***"Empowering patients is not just ethical – it's efficient."***

Use one of the frameworks – SCT, COM-B, or SDT – to identify gaps in readiness. If a patient lacks capability or motivation, focus on empowerment before adding pills.

This preparatory phase naturally aligns with the lifestyle modification period recommended by hypertension guidelines. It transforms that window into an opportunity for psychological and behavioral preparation.

Table 1

Model	Focus	Key Mechanism	Evidence in Medication Adherence
Health Beief Model	Perceptions of risk and benefits	Perceived threat and barriers	Moderate
Social Cognitive Theory (SCT)	Learning, self-efficacy	Skill-building, reinforcement	Strong
Trans theorectical Model (TTM)	Readiness to change	Stage-matched strategies	Moderate–Strong
Theory of Planned Behavior	Intention & perceived control	Norms and attitudes	Moderate
Common-Sense Model (CSM)	Illness beliefs	Cognitive/emotional representation	Moderate
COM-B / Behavior Change Wheel	Capability, Opportunity, Motivation	Systems-level integration	High (modern, adaptable)
Self-Determination Theory (SDT)	Intrinsic motivation	Autonomy support	Strong (sustained behavior)

Also, remember to suspect non-adherence in any patient with uncontrolled blood pressure despite two medications. As highlighted by Gupta et al. in this issue of *Hypertension News*, chemical adherence testing (CAT) should become part of standard hypertension evaluation.

Where testing is unavailable, a structured behavioral assessment – based on readiness, motivation, and opportunity – can guide clinical reasoning. Data strongly indicate that, in most cases, non-adherence is more common than true resistant hypertension.

The New Prescription

Medication adherence is not a matter of willpower. It is a behavior, one influenced by beliefs, emotions, environment, and systems. Understanding these factors moves us from command to collaboration.

Perhaps the next great advance in hypertension management won't come from a new molecule, but from a new mindset, one that treats prescribing as the beginning of a shared journey, not the end of a consultation.

So before you reach for your pen or click "send to pharmacy," pause for a moment and ask yourself: Is my patient ready?

Author bio: Cesar Romero, MD, MPH, is a physician-scientist at Emory University's Division of Nephrology, Atlanta, USA. His research focuses on hypertension mechanisms, kidney physiology, and blood pressure control. He serves on the Executive Committee of the International Society of Hypertension.

Cesar Romero – cesar@ish-world.com

References:

1. Burnier M, Egan BM. Adherence in Hypertension. Circ Res. 2019;124(7):1124-1140. doi:10.1161/CIRCRESAHA.118.313220

2. Burnier M, Prejbisz A, Weber T, et al. Hypertension healthcare professional beliefs and behaviour regarding patient medication adherence: a survey conducted among European Society of Hypertension Centres of Excellence. Blood Press. 2021;30(5):282-290. doi:10.1080/08037051.2021.1963209

3. Amico KR, Mugavero M, Krousel-Wood MA, Bosworth HB, Merlin JS. Advantages to Using Social-Behavioral Models of Medication Adherence in Research and Practice. J GEN INTERN MED. 2018;33(2):207-215. doi:10.1007/s11606-017-4197-5

4. Marshall S, Mackay H, Matthews C, Maimone IR, Isenring E. Does intensive multidisciplinary intervention for adults who elect bariatric surgery improve post-operative weight loss, co-morbidities, and quality of life? A systematic review and meta-analysis. Obesity Reviews. 2020;21(7):e13012. doi:10.1111/obr.13012

5. Vats S, Gupta R, Rajeev A, Gupta B, Sharma D, Mehrotra K. Behavioral modification strategies for tobacco cessation: A scoping review. Journal of Education and Health Promotion. 2024;13(1):419. doi:10.4103/jehp.jehp_1790_23

6. Bandura A. Social Foundations of Thought and Action: A Social Cognitive Theory. Prentice-Hall, Inc; 1986:xiii, 617.

7. Schutte AE, Jafar TH, Poulter NR, et al. Addressing global disparities in blood pressure control: perspectives of the International Society of Hypertension. Cardiovasc Res. 2023;119(2):381-409. doi:10.1093/cvr/cvac130

8. Zanuzzi MG, Garzon ME, Cornavaca MT, et al. Social determinants of blood pressure control in a middle-income country in Latin America. J Biosoc Sci. 2024;56(1):50-62. doi:10.1017/S0021932023000044

9. Rosende A, Romero C, DiPette DJ, et al. Candidate Interventions for Integrating Hypertension and Cardiovascular-Kidney-Metabolic Care in Primary Health Settings: HEARTS 2.0 Phase 1. Glob Heart. 2025;20(1):45. doi:10.5334/gh.1428