# FOCUS ON PAEDIATRIC HYPERTENSION

## The transition of care between pediatric and adult health services, and how to reduce differences in the standard of care for arterial hypertension


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Healthcare transition is a planned process designed to prepare and integrate adolescents and young adults (AYAs) from pediatric services into adult systems.1 Its primary objective is to ensure continuity of care and developmentally appropriate attention. This manuscript proposes a practical framework to mitigate differences in the standards of care by conceptualizing transition as a complex intervention: governance and longitudinal responsibility, readiness building, pre-transfer risk stratification, strengthening self-management skills, an operational bridge between teams, and measurement for continuous improvement.

Transition is not synonymous with transfer. While transfer is the administrative act of moving a patient, transition involves early planning and standardized processes to guarantee effective integration and positive health outcomes.[1]

Emerging adulthood (ages 18–25) is a period of rapid life changes in education, residence, and social support, often coinciding with shifts in insurance coverage.[2] For chronic conditions like hypertension (HTN), this stage can disrupt health behaviors and exacerbate existing disparities. Accordingly, transition should be conceptualized as a pillar of patient safety and clinical excellence, extending beyond a simple age-related milestone.[2,3]

**The Importance of Continuity**

In HTN management, treatment discontinuity is hazardous. Missed appointments and suboptimal adherence often lead to persistently uncontrolled blood pressure (BP), delayed therapeutic escalation, and undetected target-organ damage. AYAs often possess limited health literacy regarding "silent" conditions and may underestimate risks in the absence of symptoms.

However, transition also presents a preventive opportunity. Because adult cardiovascular health is established early, a structured pathway can consolidate evidence-based targets and strengthen self-management skills as autonomy increases.

From our clinical perspective, the gap in standards is viewed less as a “lack of guidelines” and more as a systems failure: the absence of a longitudinal care lead, abrupt changes in the treating team, and inconsistent messaging regarding the diagnosis

and goals of care. Therefore, improving transition requires the design and implementation of complex, multidisciplinary interventions (with multiple components across several organizational levels), with planned evaluation and adaptation to the local context.[3-6]

## Hypertension-specific considerations

### 1) BP Tracking and Early-Life Determinants

Blood pressure "tracks" over time; elevated childhood BP is a strong predictor of adult HTN. This trajectory is shaped by family history, adiposity, diet, and social determinants of health.[7] These drivers often intensify during late adolescence as routines change. Transition planning should treat lifestyle interventions as longitudinal therapy, linking patients to sustainable community and workplace resources.[8]

### 2) Changing diagnostic criteria and clinical messaging:

Pediatric BP classification relies on age, sex, and height-specific percentiles, while adult guidelines use fixed thresholds.[8] This shift can lead to reclassification and inconsistent clinical messaging (e.g., a patient being told they are "hypertensive" by a pediatrician but "normal" by an adult provider). To maintain trust, clinicians must document the standards used, explain why thresholds change, and maintain a risk-based perspective even if the patient falls below adult cutoffs: because a history of elevated adolescent BP justifies continued monitoring and lifestyle interventions.[1,2,8]

### 3) Masked hypertension and out-of-office BP assessment:

Masked HTN – normal office BP but elevated ambulatory or home BP – is common in high-risk groups (obesity, CKD, diabetes, repaired coarctation of aorta). It is associated with increased left ventricular mass and early myocardial impairment.[9] Transition pathways must define when Ambulatory BP Monitoring (ABPM) is indicated and ensure these reports are included in the transfer package to prevent redundant testing.

### 4) Risk stratification and target-organ surveillance:

Prior to transfer, clinicians must reassess HTN severity and target-organ involvement. This includes evaluating BP trajectories, screening for secondary causes, and reviewing renal parameters (e.g., GFR and albuminuria). Cardiac assessments for left ventricular hypertrophy should be performed based on guideline criteria. This stratification determines the intensity of the "handoff" and the urgency of adult follow-up.[10]

## Key elements to reduce differences in the standard of care

### A) Early preparation with readiness assessment:

Planning should begin between ages 12–14. Tools like the Transition Readiness Assessment Questionnaire (TRAQ) help build competencies in medication knowledge and appointment scheduling.[3] Clinicians should progressively increase "patient-only" time during visits.

### B) Clear accountability and defined endpoints:

A designated transition lead should oversee milestones, ensuring the transfer package is complete and the first adult appointment is attended. Success is defined by confirmed attendance at the initial adult consultation, not just the issuance of a referral.[8]

### C) Standardized transfer documentation:

Standardized Documentation: A concise transfer summary is vital. It should include the initial diagnosis and standards used, longitudinal office and out-of-office BP data, comorbidities and evaluations for secondary causes, comprehensive medication history (dosages, side effects, and adherence). Finally, confirm that the adult appointment has been successfully scheduled.

### D) A “warm handoff” and operational bridge:

For high-risk patients, direct communication or joint pediatric-adult visits are ideal. Establishing a low-barrier consultation channel for 6–12 months post-transfer allows adult teams to clarify history and adjust therapy without delay.[10]

### E) Measurement and continuous quality improvement:

Systems should track indicators such as the time between visits, loss to follow-up, and BP control at 12 months. Iterative cycles (e.g., PDSA) should be used to adapt pathways to local constraints.[5,6]

## The challenge of applying clinical guidelines in local settings

In countries like Chile and Argentina, clinical recommendations emphasize proactive preparation and psychosocial support. However, implementation remains heterogeneous due to geographic barriers and disparate access to subspecialty care.[10] HTN serves as an ideal "index condition" for developing scalable pathways because it offers measurable targets and standardizable processes. Systematizing these into routine workflows is the most critical step toward reducing variability nationwide.

## Conclusion

The transition period is a fundamental determinant of long-term health for AYAs with HTN. Vulnerability arises from systemic discontinuities and shifting diagnostic criteria. Mitigating these risks requires intentional, evidence-based programs focused on readiness assessment, rigorous risk stratification, and accountable linkage to adult services. By bridging the gap between pediatric and adult teams, healthcare systems can transform a period of risk into a continuous trajectory for cardiovascular health.

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