From treatment to health: reforming the child health care system in China in an era of low fertility

A sustained decline in fertility in China has reshaped pediatric service needs but has not solved structural weaknesses [1]. Despite successive relaxations of population control policies (e.g., the 2021 three-child initiative), in 2023, the country registered 9.02 million births (crude birth rate 6.39 per 1000) and a negative natural growth rate (Fig. 1) [2, 3]. This demographic contraction is redefining demand for child health services. The reaction should not be to downsize pediatrics but to restructure toward high-quality, prevention-focused primary health care (PHC) and integrated early childhood development (ECD).

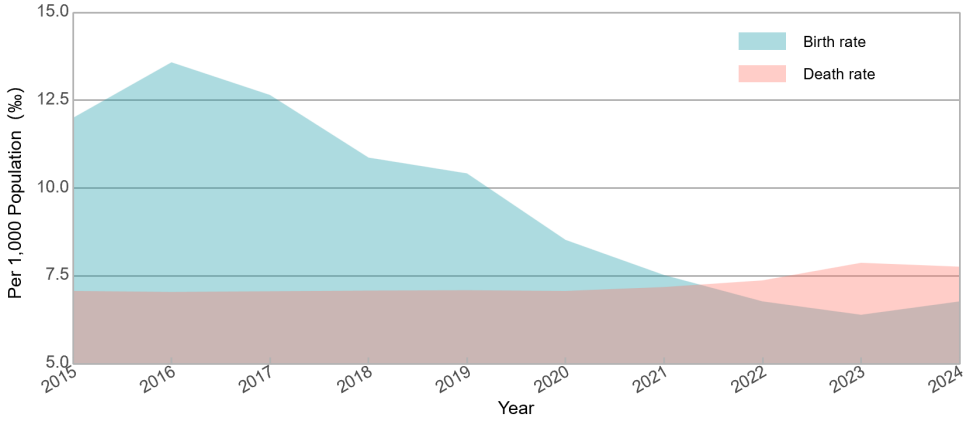

Figure 1. Trends in birth and death rates in China, 2015–2024 [2]

Maternal and Child Health (MCH) network in China provides a practical lever to address this important shift. Over seven decades, it has contributed substantially to reductions in maternal, infant, and under-five mortality, and already links county, municipal, and national tiers. This is an infrastructure well suited to PHC-led pediatric reform. Aligning pediatric care with the World Health Organization (WHO) PHC agenda, as framed in the Declaration of Astana and the WHO PHC operational framework, would prioritize first-contact access, continuity of care, and integrated preventive services for both children and families [4]. To realize this vision, it is essential to provide standardized training on developmental screening and nutritional assessment for existing public health workers, along with the distribution of simple tools. Second, it is important to make full use of available primary care pediatricians, especially given the current context of declining clinical volume due to lower fertility rates. Through short, systematic training in the theory and skills of the "Five Wellnesses" Promotion Action Plan for Children and Adolescents, these pediatricians with

medical backgrounds can be easily retrained to provide child health services. In the long term, progress depends on the maturation of a tiered pediatric diagnosis and treatment system, the improvement of regional health information systems, and a more balanced distribution of overall medical resources. This phased approach would enable MCH facilities to evolve into ECD hubs that bundle growth and anemia surveillance, nutrition support, developmental screening, and parent counseling. This further builds on the long-running child nutrition surveillance system and community-based programmatic experience in China.

Mechanisms to address system integration are in place to support this transition. Since 2015, regional medical consortia (medical alliances) have strengthened linkages between tertiary hospitals and primary facilities, improving referral governance, teleconsultation, and quality management. Evaluations from multiple local reforms (e.g., Sanming health care from Fujian Province) show measurable improvements consistent with efforts to rebalance care away from overcrowded tertiary centers. These alliances should explicitly include pediatric pathways, with standardized referral criteria, shared care plans for common conditions (e.g., wheeze, recurrent infections, developmental concerns), and feedback loops that use routine MCH data for targeted supervision. To shift these arrangements from hospital-led to truly government-led governance, two complementary strategies are needed. At the policy level, this means strengthening the tiered diagnosis and treatment system with well-functioning referral mechanisms and a unified information platform for seamless data connectivity. At the financial level, health insurance reimbursement should be recalibrated to offer differentiated rates based on condition severity and appropriate level of care, encouraging common diseases to be managed at primary care facilities and complex cases to be referred to tertiary hospitals, thereby guiding patients to seek care at the proper tier.

Workforce capacity remains pivotal. China reports a workforce of about 234,000 pediatricians (including assistants) by the end of 2023, alongside steady growth in pediatric bed supply and primary-level service coverage [5]. Yet, headcount growth alone does not ensure competence. Variable training routes and temporary transition programs have led to heterogeneous skill levels [6], especially in the primary tier. We propose a dual workforce strategy: (1) strengthen elite pediatric education and competency-based residency to build a high-skill core. Given the changing landscape of pediatric diseases, with a decline in respiratory illnesses and an increase in perinatal conditions, birth defects, and other complex disorders, pediatric specialists must update their knowledge base and master advanced techniques, such as gene therapy and

immunotherapy to meet new diagnostic and treatment demands; and (2) deliver modular upskilling for existing MCH and primary child health workers, focusing on developmental surveillance, psychosocial and behavioral care, nutrition counseling, and early detection of high-burden conditions. These can be implemented through rotations in children's hospitals and mentored practice within medical consortia. Such upskilling should explicitly encompass the transition of primary-level pediatricians toward general practitioner roles, equipping them to deliver the continuous, comprehensive care that is currently lacking.

Policy priorities should be tightly scoped and measurable. First, codify an ECD-oriented pediatric PHC package within MCH (defining content, workforce competencies, and indicators), aligned with WHO PHC principles [7]. A critical enabler for implementing this package is reforming the current pricing and fee structure for pediatric care and developmental services, which remains unreasonable. This pricing distortion not only impedes early screening but also hinders standardized diagnosis of neurodevelopmental disorders. The current fee structure for pediatric services, characterized by relatively low charges, combined with the challenges posed by a declining birthrate, has further squeezed the development space of the specialty. The reform pathway should begin with targeted price adjustments—government-led cost accounting for services such as developmental screening and neurodevelopmental assessment, prioritizing procedures with high technical labor value that are currently undervalued—and gradually transition toward value-based bundled payments. The ultimate goal is a government-led, multi-funded, and incentive-compatible child health service system. Second, embed pediatric pathways into regional medical consortia with explicit targets for primary-level resolution of common conditions and time-bound referral turnaround. Third, publish annual pediatric workforce dashboards, including pediatricians per 1000 children, distribution by level, and competency metrics, to shift attention from absolute numbers to capability and equity. Finally, sustain national nutrition and development surveillance and link this to tailored community interventions, building on evidence of improved child outcomes from nutrition programs in China.

Demographic headwinds will persist. The appropriate response is not retrenchment, but reform—leveraging the MCH system, consolidating gains from medical consortia, and investing in a competency-driven pediatric workforce to deliver high-quality, equitable child health coverage in a low-fertility era. Experience in China may also inform policy in other upper middle-income countries facing similar demographic transitions of population aging toward service restructuring.

Data availability

The dataset supporting the conclusions of this article is available from the National Bureau of Statistics, as referenced by the website in the section of references.

References

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