



Neonatal Therapy

PARLIAMENTARY SIMULATION AS A TEACHING METHOD: BRIDGING NEONATAL THERAPY POLICY AND PRACTICE IN INDIA

Nandgaonkar Hemant*	Assistant Professor, Occupational Therapy Training School & Centre, Seth GS Medical College, KEM Hospital, Mumbai – 400012*Corresponding Author
Ughade Yashwanti	Assistant Professor, Occupational Therapy Training School & Centre, Seth GS Medical College, KEM Hospital, Mumbai – 400012
Kasar Usha	Assistant Professor, Occupational Therapy Training School & Centre, Seth GS Medical College, KEM Hospital, Mumbai – 400012
Gupta Nikita	Occupational Therapist, Occupational Therapy Training School & Centre, Seth GS Medical College, KEM Hospital, Mumbai – 400012

ABSTRACT **Background:** Neonatal therapy is critical for reducing developmental delays and lifelong disabilities among high-risk newborns. India faces severe workforce shortages, with therapy coverage meeting less than 30% of national need. **Objective:** To evaluate the Neonatal Therapy Parliament—a parliamentary-style simulation—as a teaching method for health systems education, workforce planning, and policy integration. **Methods:** A simulation-based learning activity was conducted during the 7th Annual National Neonatal Therapy Conference. Participants assumed roles as Members of Parliament, presenting state-specific neonatal workforce data, applying gap-analysis formulas, and debating cost-benefit models. The session replicated parliamentary proceedings: presidential and prime ministerial addresses, state-wise presentations, open debate, and voting on a national white paper. Teaching strategies included case-based learning, role-play, collaborative analysis, and reflective synthesis. **Results:** Participants demonstrated improved comprehension of neonatal therapy's economic and clinical impact, enhanced skills in interpreting workforce data, and strengthened capacity for interdisciplinary collaboration and negotiation. Awareness of rural-urban inequities and policy barriers increased. **Conclusion:** Parliamentary simulation is an effective teaching method for health systems education. Embedding such experiential models into medical and public health curricula can accelerate workforce development, policy integration, and leadership training in neonatal care.

KEYWORDS : Simulation-based learning; Neonatal therapy; Teaching methodology; Workforce policy; Health systems education; India.

INTRODUCTION

Neonatal therapy plays a vital role in reducing developmental delays, cerebral palsy, and feeding difficulties among high-risk newborns. Despite improved neonatal survival rates, therapy coverage in India remains below 30% of estimated need (National Neonatal Therapy Parliament Report, 2025). Addressing this gap requires innovative teaching methods to train future leaders in health systems planning. Simulation-based learning, particularly parliamentary-style debate, offers a novel approach to teaching workforce analysis, economic modeling, and policy negotiation.

Methods

Design

The *Neonatal Therapy Parliament* was structured as a simulation-based teaching method modeled on parliamentary proceedings. The design emphasized experiential learning through role-play, case-based analysis, and consensus-driven decision-making.

Data Gathering

Prior to the session, each Member of Parliament (MP) was provided with a standardized questionnaire to collect state-specific data on neonatal workforce shortages, infrastructure availability, and fiscal allocations. MPs triangulated their responses with official health department records, NICU registries, and training program databases. This preparatory step ensured that presentations were grounded in evidence and comparable across states.

Session Structure

The simulation followed a parliamentary format:

1. Presidential and Prime Ministerial addresses set the context and highlighted the urgency of neonatal therapy integration.
2. State-wise presentations were delivered by MPs, each allotted a strict 3–5 minute window to present workforce data, infrastructure mapping, and cost-benefit projections. The Speaker enforced time limits to maintain discipline and ensure equal opportunity for all states.
3. Open floor discussion and cross-questioning followed, involving MPs, clinicians, researchers, and audience members. Stakeholders were invited to pose questions, challenge assumptions, and propose refinements. Each intervention was capped at 1–2 minutes, with the

Speaker moderating to prevent digressions and keep the session on track.

4. Voting on a national white paper concluded the simulation, with MPs casting votes in favor, against, or abstaining. Results were announced by the Speaker, followed by reflective synthesis of lessons learned.

Teaching Strategies

- **Case-based learning** using state-specific neonatal workforce data.
- **Role-play simulation** with MPs debating shortages and fiscal priorities.
- **Collaborative analysis** applying gap-analysis formulas and cost-benefit models.
- **Decision-making practice** through structured voting.
- **Reflective synthesis** to consolidate learning outcomes.

Analytical Tools

Participants applied:

- Workforce gap formula (therapist-to-bed ratio).
- Economic modeling (Net Present Value, Internal Rate of Return, ROI).
- Comparative state profiling.
- Policy brief drafting and dashboard visualization.

Seating Arrangement, Moderation and Time Control

The seating arrangement was modeled on the Indian Parliament, with MPs positioned in a semicircular layout facing the Speaker's chair. This arrangement reinforced the authenticity of the simulation and encouraged direct engagement between presenters and discussants. The Speaker played a central role in maintaining session flow, enforcing presentation time limits, moderating stakeholder interventions, and guiding transitions between segments. This ensured that the simulation was completed within the planned 60–90 minute timeframe.

Results

Participant Engagement

The *Neonatal Therapy Parliament* attracted active participation from Members of Parliament, clinicians, researchers, and students. All MPs submitted state-specific data using the standardized questionnaire,

which was successfully triangulated with official records. During the session, each MP adhered to the **3–5 minute time limit**, presenting concise workforce and infrastructure data. The Speaker's enforcement of time control ensured equitable participation and maintained session flow.

Stakeholder Discussion

The open floor discussion generated robust engagement. Stakeholders—including audience members—posed targeted questions, challenged assumptions, and offered refinements. Cross-questioning was lively but contained, with interventions capped at 1–2 minutes. This format encouraged inclusivity while preventing digression. Participants reported that the moderated dialogue enhanced their understanding of both technical data and broader policy implications.

Learning Outcomes

Analysis of participant feedback and observation revealed several key outcomes:

- **Improved comprehension** of neonatal therapy's economic and clinical impact.
- **Enhanced skills** in applying workforce gap formulas and cost-benefit models.
- **Strengthened collaboration** across disciplines, with MPs, clinicians, and researchers working together to interpret data.
- **Greater awareness** of rural–urban inequities and policy barriers affecting neonatal therapy scale-up.
- **Confidence in decision-making**, as participants experienced structured voting and consensus-building.

Session Completion

The Speaker's moderation ensured that the entire simulation was completed within the planned 60–90 minute timeframe. The final voting on the national white paper provided closure, with participants reflecting on lessons learned and identifying actionable priorities for neonatal therapy integration.

DISCUSSION

The *Neonatal Therapy Parliament* demonstrated that parliamentary simulation can be an effective teaching method for health systems education. By combining structured data collection, timed presentations, moderated stakeholder dialogue, and consensus-driven decision-making, the simulation transformed abstract policy concepts into experiential learning. Participants were immersed in the realities of workforce planning and fiscal negotiation, which enhanced their ability to apply analytical tools such as gap-analysis formulas and cost-benefit models in a practical context.

A major strength of this teaching method was its realism and inclusivity. The process of gathering state-specific data prior to the session ensured that presentations were evidence-based, while the strict time limits enforced by the Speaker promoted discipline and equity among participants. The inclusion of audience members in the open floor discussion broadened perspectives, allowing clinicians, researchers, and policymakers to interact in a collaborative environment. This multi-stakeholder engagement reinforced the importance of interdisciplinary dialogue in health systems reform.

The simulation also fostered critical thinking and decision-making skills. Participants were required to synthesize complex data rapidly, defend their positions under time constraints, and engage in structured voting. These elements mirrored real-world policy processes, preparing learners for leadership roles in neonatal and child health governance.

However, limitations were noted. The reliance on accurate state-level data posed challenges, as discrepancies in reporting could affect the quality of analysis. Time constraints, while necessary for session flow, occasionally limited deeper exploration of complex issues. Future iterations could integrate digital dashboards to streamline data visualization and tele-simulation platforms to expand participation beyond physical conferences.

Overall, the *Neonatal Therapy Parliament* illustrates how simulation-based teaching can bridge the gap between academic knowledge and policy practice. Embedding such experiential models into medical and public health curricula offers a replicable pathway to train future leaders in neonatal therapy policy, workforce planning, and systems integration.

CONCLUSION

The *Neonatal Therapy Parliament* demonstrated that parliamentary simulation is a powerful teaching method for health systems education. By embedding structured data collection, timed presentations, moderated stakeholder dialogue, and consensus-driven decision-making into a simulation format, participants gained practical skills in workforce analysis, economic modeling, and policy negotiation. The model successfully fostered critical thinking, interdisciplinary collaboration, and confidence in decision-making under time constraints.

Although challenges such as data accuracy and limited time for deeper exploration were noted, the simulation's strengths in realism, inclusivity, and replicability outweigh these limitations. Future iterations can integrate digital dashboards, tele-simulation platforms, and expanded stakeholder participation to enhance scalability.

Embedding parliamentary simulation into medical and public health curricula offers a replicable pathway to train future leaders in neonatal therapy policy and workforce planning. This approach ensures neonatal therapy is not only recognized as a clinical imperative but also embedded within broader health systems education, ultimately contributing to improved outcomes for high-risk newborns.

The Neonatal Therapy Parliament Report 2025

The Neonatal Therapy Parliament Report 2025 underscores the critical clinical and economic benefits of investing in neonatal therapy. The resolutions outlined in this report provide a roadmap for a comprehensive and sustainable framework to address the current gaps in newborn care. The parliament's agenda for 2025–2030 focuses on scaling up neonatal therapy services nationwide, ensuring that every newborn in India receives the specialised care they need to reach their full potential. This strategic investment will reduce the burden of disabilities, enhance the quality of life, and contribute to a healthier and more prosperous nation.

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