



Affordability of Pediatric Drugs through China's National Drug Price Negotiation: 2017-2024

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Background and Objective

- Since its inception in 2017, National Drug Price Negotiation (NDPN) of China has served as a crucial mechanism for the strategic procurement of innovative drugs to enhance their affordability, with pediatric drugs representing a key and prioritized area.
- This study aims to evaluate the affordability of pediatric drugs in the National Reimbursement Drug List (NRDL) from 2017 to 2024, with the goal of providing insights for health policymakers.

Methods

- Pediatric drugs in this study were classified as either Co-use Medicines for Adults and Children (CMACs) or Child-Specific Medicines (CSMs).
- Referring to the WHO/HAI standard methodology, our study firstly figured out the cost per DDD (DDDc) using negotiated prices from the Yaozhi Database and defined daily doses (DDD) values from the WHO ATC/DDD Index or drug package inserts.
- We estimated Out-of-pocket (OOP) of each drug for patients after reimbursement based on median reimbursement rates for urban employees and for rural/urban residents in China.
- Affordability was defined as the proportion of annual household disposable income required for one year of treatment, with a ratio of ≤ 1 been considered affordable.

Results

- During the NRDL agreement periods from 2018 to 2024, the annual number of included pediatric drugs showed a steady upward trend, with 1, 1, 8, 11, 8, 15 and 12 medicines added, respectively. In total, 56 pediatric medicines (deduplicated) were incorporated, consisting of 23 CSMs and 33 CMACs.

Results (continued)

	2018	2019	2020	2021	2022	2023	2024
Pediatric medicines through negotiation (bidding) (overall)	1	1	8	11	8	15	12
Child-Specific Medicines (CSMs)	1	1	7	2	2	5	5
Co use Medicines for Adults and Children (CMACs)	0	0	1	9	6	10	7

Figure 1 Newly added pediatric medicines in the NRDL (by category)

- The mean (SD) DDDc for CSMs was RMB 76.30 (137.06), significantly lower than that for CMACs at RMB 257.87 (530.34) ($p < 0.05$).
- In terms of dosage forms, injections had the highest mean DDDc (444.92), followed by nasal sprays (288.53) and capsules (207.08). Powders for inhalation (0.34), eye drops (9.90), and ointments (10.59) exhibited the low DDDc values.

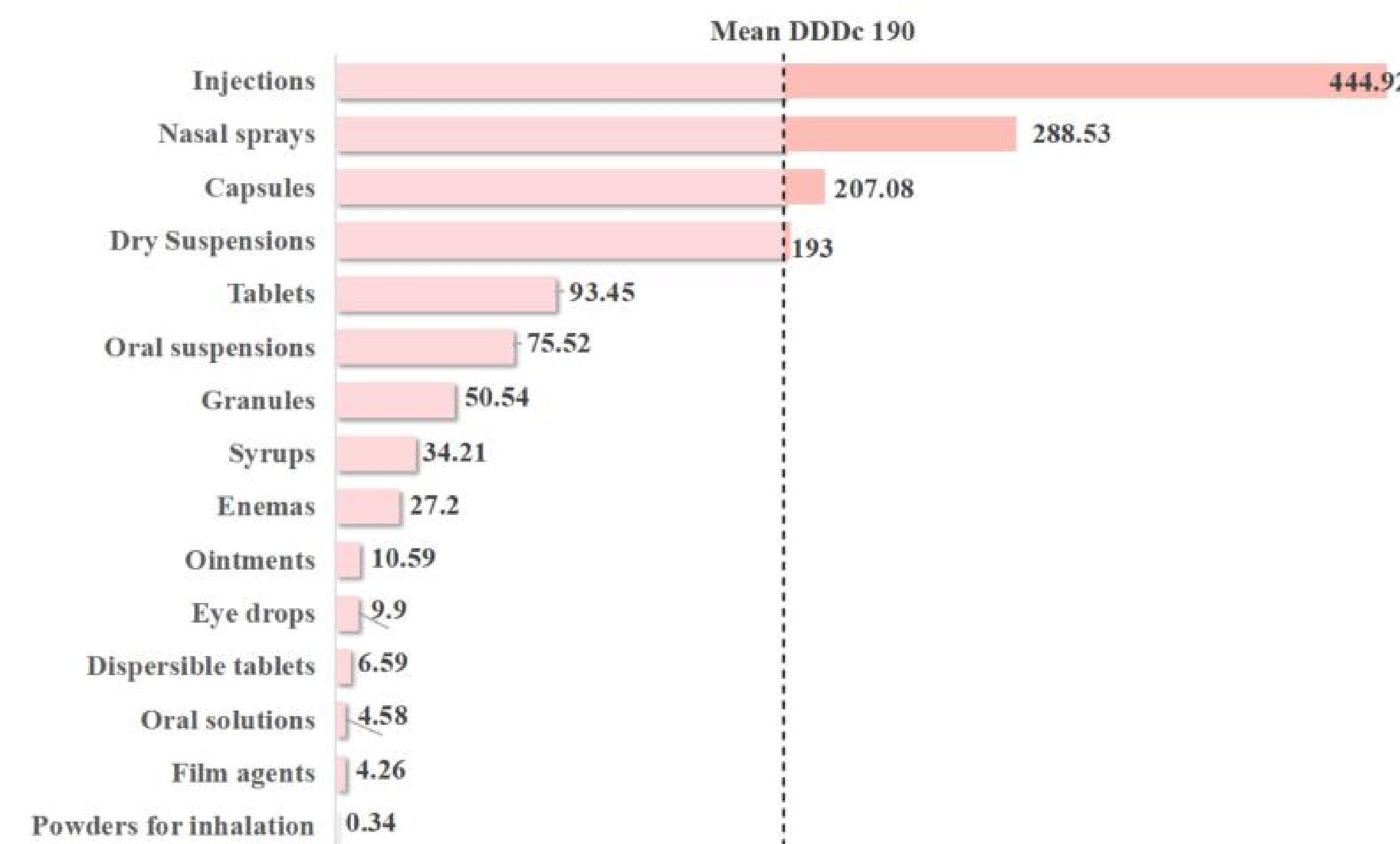


Figure 2 Mean DDDc for different dosage forms of pediatric medicines through NDPN

- Reimbursement rates ranged from 65%-85% (median 80%) for employees and 50%-80% (median 70%) for residents through policy analysis. After reimbursement, mean (SD) OOP of pediatric drugs was RMB 36.66 (85.96) for employees and RMB 54.99 (127.78) for residents.
- Reimbursement increased the number of affordable drugs from 40 (71.43%) to 53 (94.64%), 12 of which were CMACs.

Results (continued)

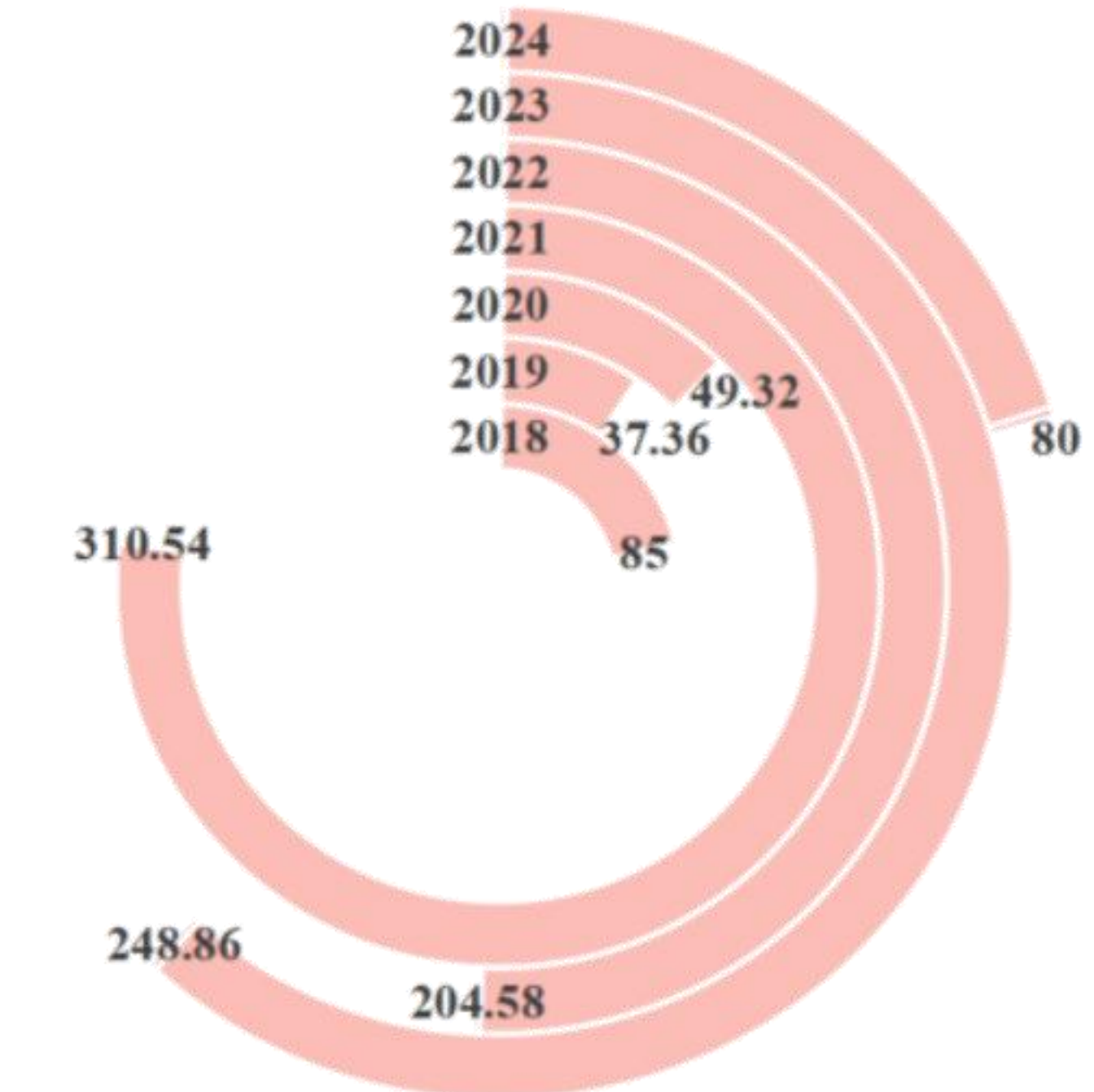


Figure 3 Mean DDDc for NRDL across different years of pediatric medicines

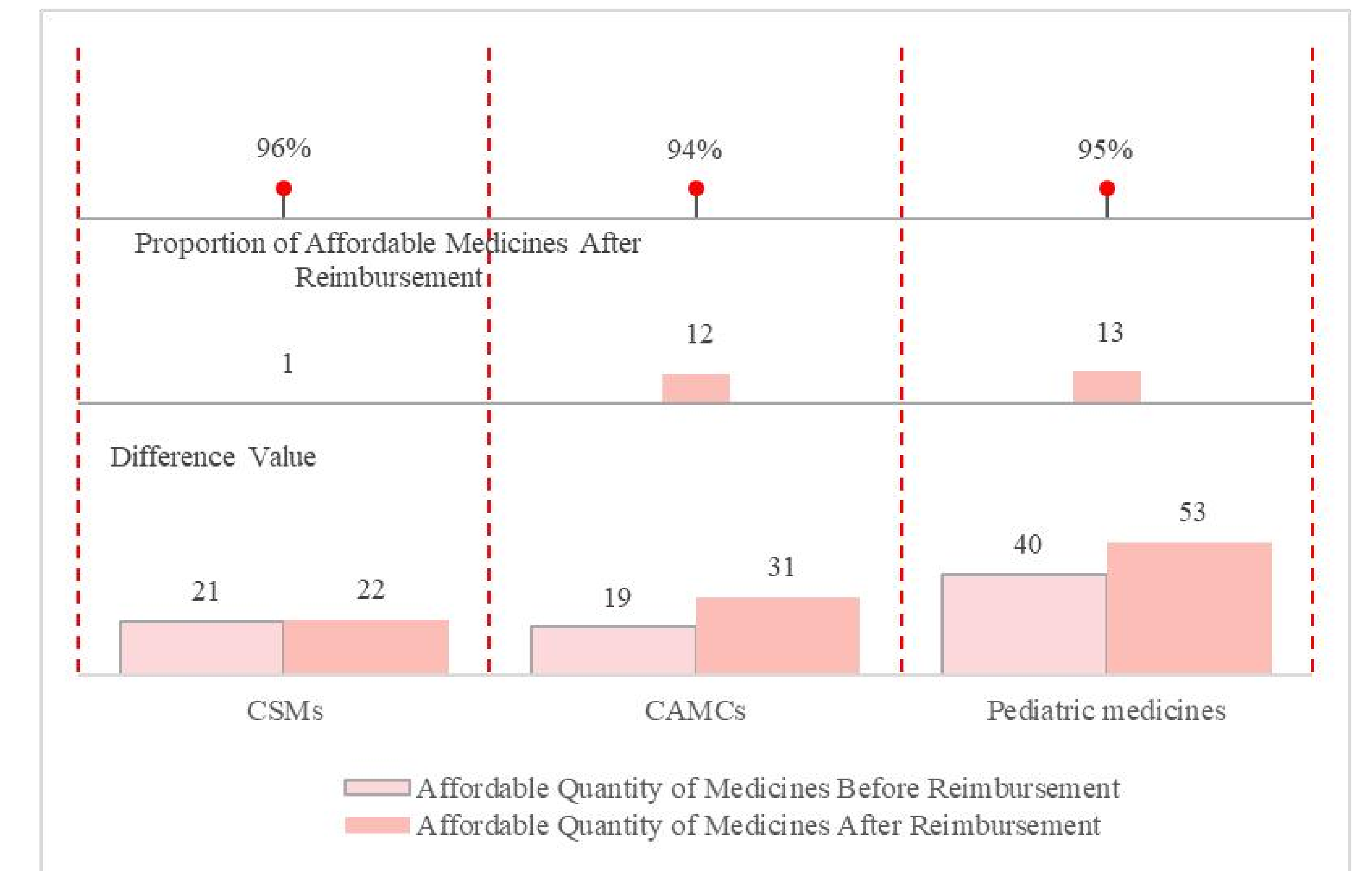


Figure 4 Affordability before and after reimbursement

Conclusion

While CSMs have significantly lower DDDc than CMACs, the latter have been increasingly included since 2020. The NDPN policy has substantially reduced prices for novel drugs and improved the affordability of pediatric treatments, notably for CMACs.

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