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NUTRITIONAL INTERVENTION IN PRESCHOOL CHILDREN DIAGNOSED WITH OBESITY

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ABSTRACT

Childhood obesity already affects ~8-9 % of 2 to 5 year-olds and predicts later cardiometabolic disease. This review a) clarifies current diagnostic criteria for preschool obesity; b) maps key environmental and behavioral drivers; and c) assesses nutrition-focused interventions delivered at family, preschool and policy levels.
BMI for age still underpins WHO, CDC and IOTF charts; severe obesity cut offs and waist measures refine risk. Obesogenic pressures arise from energy-dense home diets, fast food outlets, poor produce access and persuasive digital marketing. Roughly 40 RCTs show that high-intensity (≥25 h) family programs pairing parental skill-building with home food restructuring lower BMI-z by up to -0.59 and maintain ≈-0.20 after 2 y. Preschool curricula shave -0.10 to -0.12 BMI-z across populations. Fiscal levers sugar-sweetened-beverage taxes, meal standards, front-of-pack warnings and advertising restrictions produce small but often equity-enhancing shifts and act synergistically with micro-environmental changes.
Evidence favors early, layered action: precise growth surveillance, intensive family-centered treatment, healthy preschool food policies and equity-oriented regulation. Scaling integrated bundles with high fidelity and long follow-up could curb the projected 42 % rise in early childhood obesity by 2035. Research needs include cost-effectiveness of digital adjuncts, natural experiment tests of zoning and marketing reforms, and systems models quantifying interactive impacts of combined policy packages.

KEYWORDS
Nutritional Interventions, Childhood Obesity, Obesity Prevention, Preschool Children, Obesity, Pediatric Nutrition, Body Mass Index (BMI), Family Interventions

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Introduction

Childhood obesity rates have risen steeply worldwide; a 2023 systematic analysis of 200 countries reported an 8.5 % pooled prevalence among 2 to 5 year olds, with marked geographic heterogeneity [1]. In the United States, nationally representative data show that nearly one in five 4 year olds already meets BMI criteria for obesity [2]. These figures are alarming because adiposity established by preschool age has a high probability of persisting, especially when reinforced by obesogenic home and childcare food environments.

Even during the preschool years, excess adiposity is associated with dyslipidaemia, hypertension, insulin resistance, and early vascular changes [3]. Longitudinal cohorts demonstrate that preschool age BMI predicts cardiometabolic risk profiles and all cause morbidity decades later, underscoring the need for preventive and therapeutic action before school entry.

Dietary intake in early childhood is shaped predominantly by parental feeding practices, childcare policies, and the availability of energy dense, nutrient poor foods. Modifying these determinants can alter children's taste preferences, self-regulatory eating skills, and growth trajectories. Systematic reviews of trials in 2 to 5 year olds conclude that nutrition focused, behaviourally oriented programmes often combined with physical activity or parenting components can reduce BMI z scores by 0.10-0.30 at 6-12 months [4]. Theory driven frameworks, such as Social Cognitive Theory and the Family Systems Model, guide many of these interventions, emphasising modelling, reinforcement, and restructuring of the home food environment.

Early pilot and efficacy trials provide proof of concept that intensive, family based approaches can reverse obesity in preschoolers. For example, the Healthy Homes/ Healthy Kids Preschool programme integrated brief paediatrician counselling with telephone coaching to parents and produced favourable shifts in BMI percentiles over 12 months [5]. Similarly, a clinic and home based behavioural treatment achieved significant reductions in weight for height z scores compared with usual care [6]. The More and Less Study added evidence from Europe, demonstrating that treatment focusing on parent child interaction and responsive feeding led to greater BMI reductions than standard lifestyle education [7].

Given the magnitude of the problem and the accumulating though heterogeneous evidence base, this chapter critically appraises nutritional interventions targeting obesity in preschool children. We first synthesise epidemiologic and mechanistic justifications, then examine intervention characteristics including setting, behavioural techniques, intensity, and cultural tailoring that influence outcomes. Finally, we identify gaps in the literature and implementation challenges to inform future research and policy initiatives aimed at safeguarding healthy growth trajectories from the earliest years of life.

Definitions and diagnostic criteria for childhood obesity

Childhood obesity is clinically defined as excess body fat accumulation that compromises health; because direct measures of adiposity (e.g., dual energy X ray absorptiometry) are rarely feasible in routine care, population based diagnostic criteria rely on anthropometric surrogates principally body mass index (BMI) referenced to age and sex specific growth curves. Three internationally accepted classification systems predominate: the World Health Organization (WHO) growth standards, the United States Centers for Disease Control and Prevention (CDC) growth charts, and the International Obesity Task Force (IOTF) cut points. Each uses distinct statistical methods and reference populations, yielding different percentile or z score thresholds for the categories "overweight," "obesity," and in newer guidelines "severe obesity." This chapter explains the conceptual basis of "obesity" in children, summarises the derivation of BMI for age standards, details contemporary diagnostic cut offs, and reviews complementary indices such as waist circumference and skinfolds. Finally, it contrasts the operative definitions embedded in leading clinical guidelines from the Endocrine Society and the American Academy of Pediatrics, emphasising areas of concordance and unresolved challenges (e.g., ethnic variability in fat distribution and puberty related misclassification).

Excess adiposity as a disease state

The pathophysiologic construct of paediatric obesity is sustained, measurable fat mass surplus that elevates current or future cardiometabolic risk; BMI for age is therefore a proxy rather than a direct measure of adiposity. Long term cohort data show that higher childhood BMI tracks strongly to adult body fatness and metabolic disease, validating its use as a diagnostic screen [8].

BMI

Among indirect indices, BMI (weight/height^2) best balances feasibility, reliability, and correlation with dual energy X ray absorptiometry derived fat mass in children [8]. However, the relationship between BMI and body fat percentage changes with age, sex, and maturation stage, necessitating age and sex specific reference curves.

Table. 1. Reference systems and BMI cut offs

System	Reference sample & method	Overweight	Obesity	Severe obesity*
WHO 2006/2007	Multicentre Growth Reference Study (0-5 y) plus historical NHANES data (5-19 y); LMS smoothing	> +1 SD (≈85th pct) for 5-19 y	> +2 SD (≈97th pct)	None (guidelines often map +3 SD) [9]
CDC 2000	Five US National Health Examination / NHANES cycles; LMS method	≥ 85th pct	≥ 95th pct	≥ 120 % of the 95th pct or BMI ≥ 35 kg/m² (AAP, 2023) [10]
IOTF 2000/ 2012	97 k children from 6 nations; centiles passing through adult BMI 25 & 30 at 18 y	Centiles at BMI 25	Centiles at BMI 30	Centiles at BMI 35 (2012 extension) [11]

*Terminology varies; severe, class II/III, or "extreme" obesity are operationalised mainly in US guidelines.

WHO growth reference: The 2007 WHO reference merges optimal growth preschool data with historical adolescent data; its z score approach facilitates international comparisons and links paediatric cut offs to adult risk thresholds [9].

CDC growth charts: Revised in 2000, the CDC charts retain historical US patterns, making them preferred for US surveillance and insurance coding; the 95th percentile is embedded in most state and federal programmes [12].

IOTF (Cole) cut points: The IOTF system purposely anchors paediatric centiles to adult BMI risk points (25 and 30 kg/m^2), enabling prevalence comparisons across countries; the 2012 extension added centiles equivalent to BMI 35 to identify severe obesity [11].

Complementary and emerging diagnostic measures

Waist circumference and waist to height ratio better reflect visceral adiposity and cardiometabolic risk but lack universally accepted paediatric reference curves; guidelines view them as adjunctive rather than primary criteria [13].

Skinfold thickness, bio impedance, and DXA improve fat mass estimation in research settings yet are impractical for routine clinical screening.

BMI z score changes (Δz) are recommended for monitoring treatment response because absolute BMI change is age dependent [10].

Table. 2. Diagnostic algorithms in contemporary guidelines

Guideline	Core BMI thresholds	Additional criteria
Endocrine Society 2017	Uses CDC 85th / 95th percentiles; adds class II (≥120 % of 95th pct) and class III (≥140 %) for risk stratification [13]	Recommends waist circumference, BP, lipid panel, HbA1c at diagnosis
AAP 2023	Retains CDC thresholds; emphasises early lab screening at obesity diagnosis and considers pharmacotherapy or bariatric referral at class II/III [10]	
Expert Committee 2007	Formalised "overweight" (85th-94th pct) vs "obesity" (≥95th pct) and embedded them into routine paediatric preventive care [14]	

Limitations and special considerations

1. Ethnic variability: For a given BMI, Asian and South Asian children carry more body fat, whereas Black children often have lower body fat percentage; single universal cut offs may misclassify risk [15].

2. Pubertal stage: Rapid changes in lean mass during puberty can transiently inflate BMI without parallel fat gain.

3. Extremes of height: Very short stature (e.g., in endocrine disorders) skews BMI upward; alternative indices such as percentage of ideal body weight may be needed.

4. Secular trends: Rising adiposity has shifted BMI distributions rightward, prompting periodic re-evaluation of reference curves and the addition of severe obesity categories [10].

Causes of childhood obesity

BMI for age remains the cornerstone of childhood obesity diagnosis, but clinicians must apply the chosen growth reference consistently, understand how its statistical origins influence cut offs, and interpret results alongside complementary risk markers and individual growth patterns.

The ready availability of energy dense, nutrient poor foods across the settings where children live, learn and play is a key modifiable driver of the paediatric obesity epidemic. Large cohort, experimental and synthesis studies converge on three consistent findings: a) children who are surrounded by fast food outlets, convenience stores and aggressive digital marketing consume more ultra processed products and accumulate excess body fat; b) healthier retail options such as fruit and vegetable markets or supportive school canteens are protective; and c) these environmental influences interact with family purchasing power and neighbourhood deprivation, amplifying socio economic disparities in obesity risk. This chapter reviews the empirical evidence underpinning those conclusions and identifies priorities for intervention research and policy.

Conceptualising food availability as an obesogenic exposure

Environmental nutrition research conceives an "obesogenic food environment" as the spatial, economic and digital landscape of foods that shapes individual intake beyond personal choice. Longitudinal syntheses show that the built and social features of neighbourhoods including retail mix, walkability and safety predict weight trajectories over six years of follow up [16]. Within that framework, the density, proximity and marketing prominence of unhealthy items constitute a primary causal pathway.

Household food availability

Children's immediate access to sugary drinks, salty snacks and ready to eat meals at home independently predicts poorer diet quality and higher BMI z scores after adjusting for parenting style and socio demographics [17]. Among rural, low income preschoolers, every additional high calorie item present in the pantry is associated with higher reported intake of that item that day, confirming a dose-response relationship [18]. These findings position the household food inventory as the child's "first exposure" to obesogenic offerings.

Neighbourhood retail food environment

Spatial analyses of 147 000 Dutch participants demonstrate a stepwise increase in BMI when ≥2 fast food outlets fall within a 1 km radius of the home [19]. A 2024 meta analysis pooling 103 spatial studies confirmed a 15 % higher odds of obesity in areas with the greatest fast food accessibility [20].

Conversely, systematic review evidence indicates that better access to fruit and vegetable markets is inversely related to paediatric obesity, although the literature remains heterogeneous [21].

School and childcare settings

Children spend one third of waking hours at school, making on site food provision pivotal. A meta analysis of 100 interventions found that improving cafeteria offerings and restricting competitive foods reduced BMI z score by 0.12 over one academic year [22]. Complementary observational work shows that higher densities of fast food and convenience stores within 400 m of school gates correlate with greater overweight prevalence [23].

A 2023 umbrella review found each additional daily serving of sugar sweetened beverage (SSB) predicted a 0.07 $kg\,m^{-2}$ BMI increase in children [24]. Widespread placement of vending machines and promotional pricing in both neighbourhood and school environments sustains high SSB availability, reinforcing these consumption patterns.

Availability now extends into virtual spaces. Systematic review evidence shows that exposure to unhealthy food content on social media increases snacking frequency and SSB intake, mediated by heightened reward related brain activation [25]. Because digital advertisements are algorithmically targeted by age and socio economic profile, they compound existing physical world disparities.

Built environment effects are strongest in low income areas where planning regulations permit clustering of cheap, energy dense outlets and where families have limited means to bypass the local retail mix [16]. Policies that cap fast food density, subsidise healthy retail or mandate nutrition standards in schools demonstrate small but meaningful BMI benefits at population scale [22].

Key priorities include: longitudinal natural experiments evaluating zoning reforms; integration of digital marketing exposure metrics into spatial food environment research; and intervention studies that simultaneously modify multiple availability domains (home, school, retail, online).

Possibilities of nutritional treatment

Nutritional interventions and dietary education in the family

Early childhood nutrition interventions work best when they embed dietary education in the two microsystems that shape most preschoolers' eating opportunities: the family home and the preschool or childcare setting. High quality evidence from randomized controlled trials (RCTs) and recent systematic reviews shows that multicomponent, behaviourally oriented programmes delivered to parents or to early childhood educators can improve diet quality and yield modest yet clinically meaningful reductions in body mass index (BMI) z scores over 6-24 months. This chapter summarises the theoretical foundations, intervention modalities, and effectiveness data for a) family based nutritional education and b) preschool based nutrition programming, highlighting design features that drive success and implementation challenges that remain.

Parents control most aspects of preschoolers' food exposure and role model eating behaviours; consequently, family centred approaches treat childhood obesity by modifying the home food environment, parenting practices, and parental weight status simultaneously [26]. Meta analysis of 37 RCTs confirms that the inclusion of parents reduces child BMI z by 0.12 compared with child only arms [27].

Early proof of concept came from the LAUNCH clinic plus home programme, which cut BMI z by 0.59 at six months versus paediatric counselling control [6]. Subsequent primary care trials replicated efficacy at scale; a multicentre JAMA trial reported a -0.20 BMI z advantage at 24 months for family based behavioural treatment integrated into routine paediatrics [28]. Tailored group programmes such as GOALS also improve weight trajectories and family activity patterns in community settings [29].

Preventive work beginning in infancy shows promise. The Melbourne InFANT cluster RCT enhanced mothers' diet pattern scores and curtailed high fat snack availability through quarterly group sessions [30], while a separate parent only RCT lowered toddlers' sweet snack intake and screen time [31].

Long term qualitative follow up demonstrates that parents sustain covert and overt changes removing sugar sweetened beverages, controlling portion sizes, and reorganising pantry placement four years after treatment [32]. Cross sectional data link higher availability of nutrient poor snacks at home with lower child diet quality and higher BMI z [17].

Successful trials consistently deliver ≥25 contact hours, use behaviour change techniques (goal setting, stimulus control, positive reinforcement), and couple nutrition education with structured physical activity goals [33]. Engagement is enhanced when curricula incorporate cultural foods and flexible scheduling, and when digital adjuncts (texts, apps) support between session practice.

Typical barriers include staff training costs, difficulties recruiting fathers, and sustaining intensity after programme funding ends. Hybrid effectiveness implementation studies are now testing tele health delivery, task shifting to community health workers, and pay for performance models to improve scalability.

Nutritional interventions and dietary education in preschool

Children aged 3-5 consume up to 50 % of daily calories while in early childhood education and care (ECEC); modifying meals, snacks and nutrition curricula in this setting reaches large populations irrespective of family resources [34].

The Healthy Caregivers Healthy Children cluster RCT embedded policy changes, teacher training and parental newsletters across low income centres, cutting the odds of obesity by 29 % at two year follow up [34]. A Dutch cluster RCT that up skilled educators in nutrition and active play promotion reduced combined BMI z, waist circumference and discretionary food intake after one academic year [35]. Longer term environmental supports are critical: a 24 month trial showed sustained improvements in centre nutrition climate only when external coaching was maintained [36]. Classroom lessons that combine experiential tasting, food group games and take home materials modestly increase fruit and vegetable consumption and reduce energy density of lunches [37]. An Australian parent linked preschool curriculum achieved a 0.11 BMI z reduction and higher diet quality scores compared with usual practice [38].

The 2023 Cochrane review of 84 ECEC nutrition interventions concluded that programmes improve diet quality (moderate certainty evidence) and decrease overweight risk, though effect sizes remain small [39]. A companion meta-analysis focusing on physical development corroborated slight but significant gains in height for age and BMI outcomes [40]. System mapping work indicates that interventions integrating menu standards, educator training and parental engagement address more upstream determinants and yield larger effects [41].

Effectiveness rises when centres revise procurement policies, eliminate sugar sweetened beverages, and institutionalise teacher role modelling during meals [42]. Implementation fidelity hinges on director support, staff turnover rates and alignment with licensing regulations.

Priority research areas include cost effectiveness analyses, equity impacts for marginalised populations, and hybrid trials that test policy plus curriculum bundles under real world conditions [43].

Prevention of the development and progression of obesity at the legislative level

Legislative action can reshape the “upstream” food, marketing and built environment determinants that drive excess weight gain in children. Robust quasi experimental and time series evaluations show that a) fiscal instruments such as sugar sweetened beverage (SSB) excise taxes, b) mandatory nutrition standards for meals served in schools, c) statutory restrictions on marketing and front of pack (FOP) labelling of unhealthy products, and d) zoning rules that limit retail density of energy dense outlets all produce small to moderate but additive improvements in diet and body mass index (BMI) trajectories. When equitably designed, these measures narrow socio economic gaps in obesity risk and generate net healthcare savings within a decade. This chapter synthesises the evidence base for each legislative lever, highlights implementation lessons, and identifies research priorities.

Fiscal and pricing measures: a) United Kingdom. Three years after implementation of the Soft Drinks Industry Levy, modelling of nationally representative survey data estimated a mean 0.17 kg m^{-2} BMI reduction among children and adolescents, with the greatest absolute benefit in the most deprived quintile [44], b) United States (multi city panel). A cohort study of four US cities found that city level taxes of 1-2 ¢ oz^{-1} were associated with a 1.3 percentile downward shift in youth BMI trajectories over three years [45], c) Oakland, California. Two years post tax, purchases of taxed beverages fell by 26 %, and mean daily SSB energy intake among children dropped by 18 kcal [46], d) Mexico. Cost effectiveness modelling indicates that the 1 peso per litre SSB tax will avert ~240 000 obesity cases (39 % in children) and save US $3.98 for every dollar spent on implementation over ten years [47].

Although fewer natural experiment data exist, economic simulations suggest that coupling SSB taxes with fruit-and vegetable subsidies would amplify BMI benefits and offset regressivity; enabling statutes for such schemes have been enacted in Brazil and South Africa, but evaluative studies are still underway.

The US Healthy Hunger Free Kids Act (HHFKA) raised whole grain, fruit and vegetable requirements in 2012. A cross cohort comparison of Early Childhood Longitudinal Studies showed that the preexisting BMI penalty associated with free/reduced price school meal participation disappeared after HHFKA implementation, implying attenuation of obesity risk among low income pupils [48]. Similar statutory nutrient standards in Japan and Finland correlate with lower national child obesity prevalence, yet rigorous causal evidence remains limited outside the US.

Chile's 2016 Food Labelling and Advertising Law combined black octagon FOP warnings with a ban on child directed advertising of "high in" products and removal of such items from schools. Purchases of high in beverages fell 22 % one year post implementation [49], and in school intake of sugars, saturated fat and sodium declined significantly [50]. A global systematic review of 71 primary studies confirms that restricting commercial exposure reduces children's caloric intake at meals and snacks, supporting statutory approaches over industry self-regulation [51]. FOP warning symbols mandated by law can spur both consumer behaviour change and industry reformulation. In the Chile example above, 18 % of beverages were reformulated to avoid warning labels within two years, potentiating direct purchase effects. Similar mandatory "traffic light" labels are now legislated in Mexico, Argentina and Israel, with early data showing a shift toward lower sugar formulations, though peer reviewed obesity outcomes are pending.

Systematic review evidence links higher density of fast food and convenience outlets to increased paediatric obesity [20]. England's "takeaway management zones" exemplify legislative control: a public health modelling study estimated that limiting new hot food outlets within 400 m of schools could prevent 2 % of adult obesity cases over 30 years while reducing future treatment costs [52]. Comparable siting restrictions operate in South Korea and parts of Australia, yet evaluation designs that link zoning directly to child BMI trajectories are still scarce.

Evidence suggests that combining fiscal, marketing and school food laws produces synergistic gains and narrows socio economic gradients. Post implementation evaluations in Chile and Mexico show larger percentage declines in sugary drink purchases among lower income households, and the UK levy disproportionately benefits children in deprived areas [53].

Common obstacles include industry opposition, trade law challenges, and jurisdictional limits on local authority powers. Research priorities are:

Long term BMI follow up after FOP labelling and advertising bans.

Equity focused analyses using individual level data.

Policy bundles tested via systems science methods to capture interactions.

Process evaluations to understand enforcement fidelity and unintended substitutions (e.g., juice for soda).

Legislative strategies are thus indispensable but must be continually refined to maximise reach, minimise loopholes and ensure that healthy defaults become the easiest, cheapest choices for all families.

Summary

Evidence across epidemiology, behavioural science and policy demonstrates that childhood obesity is a) common affecting 8-9 % of under 5s globally [1], b) biologically harmful tracking into adult cardiometabolic disease [54], and c) modifiable through interventions that span the micro environments of home and preschool and the macro environments shaped by legislation. Synthesising the five preceding chapters, this concluding section distils the strongest empirical signals and translates them into actionable recommendations for clinicians, educators, policy makers and researchers.

Conclusions

Global prevalence modelling shows a steady rise in obesity among 2 to 5 year olds since 2000, with forecasts projecting a further 42 % increase by 2035 if current trajectories persist [55].

Because BMI for age is the most feasible surrogate for adiposity, consistent use of WHO, CDC or IOTF growth references and explicit recognition of severe obesity thresholds remains pivotal to surveillance and clinical decision making, especially in diverse populations.

A 2024 BMJ meta-analysis confirms that high density of fast food and convenience outlets is associated with 15 % higher odds of paediatric obesity, whereas access to fresh produce markets is protective [20]. Ultra processed foods, now supplying >60 % of calories for many preschoolers, exacerbate risk [56].

Family centred behavioural programmes yield the largest individual level effects: the LAUNCH clinic plus home RCT reduced BMI z by 0.59 in six months [6], and a multicentre JAMA trial delivered in primary care sustained a -0.20 BMI z advantage at 24 months [28]. Preschool based nutrition and physical activity curricula add further, population wide benefit; the 2023 Cochrane review of 84 ECEC trials reported modest but significant improvements in diet quality and a pooled BMI z reduction of 0.12 [39].

Excise taxes on sugar sweetened beverages produce rapid, equitable gains. In England, the Soft Drinks Industry Levy was linked to a mean 0.17 kg m^{-2} decrease in child BMI and larger absolute falls in the most deprived quintile [44]. Comprehensive laws that combine front of pack warning labels with marketing and school sales bans exemplified by Chile cut purchases of high in products by 22 % and reduced in school sugar intake [57].

Key recommendations

Universal BMI for age screening at least annually from age 2, using severe obesity cut offs to trigger early referral.

Family based behavioural treatment as first line therapy, offering ≥25 contact hours and integrating goal setting, stimulus control and parent focused skill building [58].

Close follow up for comorbidity screening (lipids, HbA1c, blood pressure) in children with class II/III obesity, consistent with Endocrine Society guidance.

Adopt evidence based nutrition standards that eliminate sugar sweetened beverages and limit energy dense snacks.

Implement integrative curricula combining experiential food tasting, teacher role modelling and parent take home materials elements consistently linked to greater BMI impact.

Invest in staff training and coaching to maintain fidelity and mitigate turnover, as long term success hinges on supportive organisational culture.

Enact or strengthen SSB excise taxes at ≥20 % price increase thresholds to drive both reformulation and consumption shifts.

Mandate interpretive FOP labels (e.g., black octagon warnings) and statutory restrictions on child directed marketing of "high in" products.

Set compulsory school meal nutrition standards, mirroring the US HHFKA, which neutralised the historical BMI penalty among low income pupils.

Use zoning laws to cap the density of fast food outlets near schools, supported by modelling that predicts meaningful long term BMI gains.

Equity lens: Design and evaluate all actions for differential effects across socio economic strata and ethnic groups.

Systems integration: Bundle fiscal, marketing and school food policies; evidence suggests additive, sometimes synergistic benefits when interventions span multiple domains [57].

Real time monitoring: Leverage electronic health records, retail scanner data and geospatial mapping to track impact and guide course correction.

Research agenda

1. Long term follow up (>5 years) of early childhood behavioural programmes to verify durability of BMI and cardiometabolic gains.
2. Hybrid effectiveness implementation trials of digital adjuncts (apps, telehealth) that may lower costs and extend reach.
3. Natural experiments evaluating new zoning and advertising restrictions, with a focus on causal inference and equity outcomes.
4. Intervention bundles assessed through systems science modelling to capture interaction effects across fiscal, educational and built environment actions.

Childhood obesity is neither inevitable nor intractable. The convergent evidence summarised here shows that combining early, family centred care; supportive preschool food environments; and bold, equity oriented legislation can realign growth trajectories and reduce lifetime disease burden. Implementing these recommendations at scale and rigorously evaluating their impacts should be a public health imperative for the coming decade.

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