

<https://doi.org/10.1038/s44294-025-00090-y>

The commercial determinants of maternal health



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The burgeoning concept of the commercial determinants of health has not been applied specifically to mothers. We discuss this in terms of acts of both commission and omission. We make recommendations for an overarching ideology in which maternal health is valued as a shared societal responsibility, and bedrock of economic and societal prosperity. Central and cross-sectoral policies are needed to address this, alongside actions to engage individuals, families, and communities.

The determinants of health

Health is not the opposite or absence of disease, and healthcare is not its primary determinant. The World Health Organisation indicates that social determinants account for between 35 and 50% of health outcomes [https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1].

Recently, there has been growing recognition of the need to acknowledge commercial activities among the several determinants of health. The commercial sector produces outputs such as pharmaceuticals, diagnostics, and medical devices, that are of benefit to healthcare. Private healthcare systems also contribute to Gross Domestic Product (GDP), a metric accorded priority importance in government policies. However, certain commercial activities have a negative influence on health. Commercial activities and behaviours, and the powerful influence of large multinational corporations, can profoundly affect individual choice, as well as the political decisions that determine life circumstances, and hence drive health and wellbeing. For this reason, the term ‘commercial determinants of health’ has emerged¹, defined by the World Health Organisation as “*private sector activities impacting public health, either positively or negatively, and the enabling political economic systems and norms*” [https://www.who.int/health-topics/commercial-determinants-of-health#tab=tab_1].

There is substantial appreciation of the social determinants of health, which include daily living conditions, experiences, and exposures such as air and water quality, diet, and the physical environment, and also poverty, education, and the influence of political ideologies, religions, and cultural behaviours². Women, particularly mothers, often have limited ability to change or escape from these determinants as shown, for example, by the Trump administration’s reversal of some reproductive rights in the US, and

the Taliban’s denial of training and education to women and girls in Afghanistan. Additionally, pregnancy and childbirth are particularly risky to health, especially in low- and middle-income countries and disadvantaged socio-economic groups [<https://www.unicef.org/health/maternal-and-newborn-health>].

In contrast, here has been little discussion of the commercial determinants of maternal and child health. This is an important omission because the impacts of factors operating during pregnancy have life-long and trans-generational consequences³ and hence affect population health and wellbeing and ultimately a nation’s resilience, productivity, and innovative ability. The commercial determinants of maternal and child health is therefore a subject where physicians, economists, and social and environmental scientists must increasingly bear witness. For this reason, the Venice Forum, an international think-tank of academics concerned with improving mother and child health, met in April 2024 to discuss the issue. The subject was selected by the Venice Forum leads as an area of growing importance. It was addressed as a brain-storming session with invited delegates. We have previously published a short note on the commercial determinants of child health⁴ here we provide an extended perspective on maternal health.

Acts of commission

Acts of commission that are the most well recognised commercial determinants of health are the outputs of the tobacco, alcohol, fossil fuel, and certain food industries. They adversely affect health directly as well as indirectly through exacerbation of climate change and environmental pollution⁵. Despite repeated calls to curb consumption of these commodities, the power of large multinationals to lobby and exert influence at

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multiple levels and through myriad routes has meant that little progress has been made. This is despite clear evidence not only of their immediate, but also their long-term harms to mothers and their unborn babies.

In 2020, the United States Center for Disease Control reported that 5.5% of all births were to women who reported smoking cigarettes at some point during pregnancy. The percentage was lowest in large metropolitan areas (2.3%) and highest (13.6%) in the most rural counties [<https://doi.org/10.15585/mmwr.mm7047a59>]. The risk of harm is growing, as shown by tobacco, alcohol and food companies now investing in the cannabis industry [https://www.rcp.ac.uk/media/n5skyzt/e-cigarettes-and-harm-reduction_full-report_updated_0.pdf]. Recent examples of unacceptable behaviour include the lobbying by tobacco industry in the UK for withdrawal of proposed government legislation to raise the age at which tobacco products can be purchased [<https://www.theguardian.com/society/2024/apr/15/tobacco-firms-lobbying-mps-to-derail-smoking-phase-out-charity-warns#:~:text=The%20tobacco%20industry%20is%20lobbying,15%20this%20year%2C%20Mitchell%20said>] and there is concern over unethical marketing tactics adopted by this industry to expand tobacco consumption in Southeast Asia⁶⁷, and the state-owned tobacco industry in China⁸.

Consumption of alcohol in pregnancy has also long been a major concern, as shown by the prevalence of fetal alcohol syndrome in the general population of greater than 1% in 76 countries, making it a leading cause of preventable birth defects and developmental impairment⁹. The RAND Corporation reported that young people in the US saw an average of three alcohol advertisements per day, with greater exposure in African American and Hispanic in comparison to white youths and in girls more than boys¹⁰. Similar concerns apply to the regulation of exposure to pesticides widely used in agriculture and food production and to toxicants found in a range of items including fabrics, household products and plastics. Toxicants are also known to accumulate in the atmosphere, soil, water, and food, and their levels are high in areas contaminated by waste accumulation. Their long half-lives mean that they accumulate in a woman's body, resulting in fetal exposure to levels built up over many years¹¹. The Stockholm Convention lists organic pollutants of concern, and the International Federation of Gynaecology and Obstetrics is raising awareness of the dangers of exposure in pregnancy¹² but regulation of production remains problematic in many countries¹³.

The commercial fast-food, highly-processed, and sugar-sweetened beverage companies are widely recognised to have contributed to the global overweight and obesity epidemic. The prevalence of maternal overweight and obesity is rising and is now one of the most important health issues in pregnancy. In several countries including the United States, United Kingdom, South Africa, and Mexico, the prevalence of overweight and obesity in pregnancy is over 60%¹⁴. Overweight and obesity affects maternal and offspring health by increasing the risks of complications such as gestational diabetes, hypertension, preeclampsia, fetal growth restriction, spontaneous abortion, and preterm birth, as well as the risk of diabetes, obesity, and related conditions, in offspring.

In part fuelled by the push-back against the aggressive marketing practices of the milk formula industry¹⁵, recent years have seen the emergence of an increasingly predatory commercial human milk industry¹⁶. Its operators pay women, often from disadvantaged backgrounds, for expressed milk, which is then processed and sold at considerable profit. Concerns about the potential adverse impact on the donor women's own children led the Cambodian government to prohibit a US commercial company from exporting human milk¹⁷. Another US commercial human milk company was forced to back track on their activities in the face of protests by African American women against its sourcing of milk from poor women in their communities¹⁸. Another for-profit human milk company exports human milk from the US to Africa as an aid project, a practice that has been criticised as an example of post-colonial "white-missionary" behaviour, and an Indian commercial human milk company's plans to source milk from women as an altruistic "donation", without any payment to them and to sell this for a profit, has also been roundly condemned¹⁸.

Private healthcare deserves scrutiny because of its multiple adverse effects on mothers. Notably, the scale of private healthcare provision does not correlate well with population measures of health such as maternal mortality [<https://www.commonwealthfund.org/publications/issue-briefs/2024/jun/insights-us-maternal-mortality-crisis-international-comparison>]. The United States, a country with a dominant private for-profit health care system continues to have the highest rate of maternal deaths of any high-income country. Private healthcare progressively undermines the public sector by poaching staff and cherry-picking straightforward cases, whilst leaving the burden of complex and chronic conditions to fall to public provision. Moreover, the availability of private healthcare reduces commitment to public provision. India for example now has a dominant private healthcare sector and a flourishing middle class able to pay for its services. This has resulted in a weak public sector with clear evidence of a gender bias in access to healthcare¹⁹.

An illustration of the vulnerability of mothers to questionable private healthcare practices is shown by the higher elective Caesarean section rates in the private compared to the public sector²⁰, driven by financial benefit to obstetricians and service providers, publicity about convenience for patients, and the ethically questionable stoking of fears about the risks of perineal trauma and neonatal brain injury from vaginal births. Similar concerns arise for the human fertility industry, which caters to an increasing demand for assisted conception services around the world²¹. Although for most patients, routine fertility treatment is effective, clinics frequently offer "add-ons" that incur additional costs. An example of such treatment 'upselling' with inadequate evidence of benefit is endometrial scratching, an intrusive and potentially painful procedure, purportedly to improve the chances of implantation. Unless tightly regulated, artificial reproductive techniques, such as multiple embryo transfer, increase the risks of higher order pregnancy and preterm birth with attendant increases in adverse outcomes for mothers and babies²².

Social media platforms can influence health for harm or good²³. The first port of call for health information is often online²⁴ even though content may not be based on sound evidence or reliable guidelines and pose risks to patient safety. Social media companies collect personal data, target advertising of commercial products, and direct access to misinformation [<https://www.nationalacademies.org/our-work/assessment-of-the-impact-of-social-media-on-the-health-and-wellbeing-of-adolescents-and-children>], such as the conspiracy theories fuelling vaccine hesitancy²⁵⁻²⁷ which resulted in substantial numbers of women choosing not to accept COVID-19 immunisation, to the detriment of their health. Sadly, despite their enormous influence, social media platforms have yet to be harnessed effectively for health promotion.

The harmful effects of acts of commission on the health of mothers raise important issues of gender equity and social justice. These effects can be broad, including the nature and impacts of targeted, gendered advertising on consumption patterns of harmful products and harmful social norms and standards, to low wage work in poor conditions in commodity supply chains, particularly in agriculture²⁸. An example which involves the collusion of governments with the private sector relates to the working conditions of the garment industry in so-called 'special economic' or 'export processing' zones²⁹. Many global brands operate across jurisdictions to avoid trade restrictions, blurring accountability for their practices. Locally, these industries predominantly employ girls and young women, often on restrictive contracts, discouraging trade union membership and offering limited healthcare and educational opportunities.

Acts of omission

Private sector interests also lead to health harms through acts of omission. There has been possibly less recognition of this phenomenon though we argue there is a clear normative foundation for doing so given the moral imperative and benefit to society at large, for ensuring the health of women, doubly so during pregnancy where the wellbeing of the unborn infant is also at stake. Yet, for example, big pharma has largely eschewed the needs of mothers. Only three medicines have specifically been developed and

licensed for use in pregnancy in the last three decades: atosiban, a tocolytic now rarely used; carbetocin, a heat-stable oxytocin analogue to control postpartum haemorrhage; and dinoprostone for labour induction. The private sector focus on profits for shareholders, who can move their investments rapidly if they perceive that the risk/benefit ratio is too high, can be damaging, as for example in the inequities in vaccine production²⁷. Commercial investment in research and development targets profit, not need, with the result that the bulk of such activity is focussed on minority areas of need and disease burden.

There are also acts of omission at government policy level. A lack of public sector funding increases vulnerability to acceptance of private sector funding, with accompanying tacit acceptance of its health-harming products. This is often accompanied by the justification that these industries contribute to economic growth. Economic growth can be an important contributor to population health, for example when greater national wealth brings clean water, better housing and secure food supplies [<https://www.weforum.org/agenda/2022/11/countries-compared-on-healthcare-expenditure-life-expectancy/>]. However, this reflects an association rather than a direct causal effect and the relationship between national wealth and health holds true only to a certain level of income *per capita* (around \$7500 US). Hence, in the United States, one of the world's richest countries, life expectancy is falling and other measures of population health such as pre-term birth and maternal mortality rates are static or rising. Also worth noting is that the variation in maternal health in countries of the same economic level is greater than between countries of different levels. There is also now evidence for the converse effect, namely that increasing population health improves economic growth³⁰. It should be noted that GDP, the metric universally used as a measure of productivity and economic growth, ignores the unremunerated contributions made by mothers to child-bearing, caring, and breast feeding, which are crucial to health and wellbeing, but perversely includes commercial activities by the tobacco, fast-food, and other industries that are detrimental to health³¹.

The urgency of the problem

There are many tactics used by health-harming industries to promote their products and prevent regulation that might reduce their sales. These include influencing scientific research programmes, making political donations, showcasing corporate social responsibility and sponsoring events which distract from the detrimental health effects of their products, such as the support of sporting events by the soft drinks industry³². The urgency of tackling the rise of the private healthcare sector and of commercially-driven high profit investments targeting women's health is illustrated by the McKinsey Health Institute and World Economic Forum report 'Closing the Women's Health Gap' which advises that commercialisation of women's healthcare is potentially a trillion-dollar growth industry [<https://www.mckinsey.com/mhi/our-insights/closing-the-womens-health-gap-a-1-trillion-dollar-opportunity-to-improve-lives-and-economies>]. This will attract shareholders more interested in profit than public good. Their gains are not likely to be reinvested for public benefit, as it is calculated for example that 40% of the profits of the pharmaceutical industry are sequestered in offshore tax havens³³.

Recommendations

Policies, regulatory processes, fiscal and financial measures, accountability mechanisms and actions to improve understanding of the commercial determinants of health are required to limit their damaging effects on maternal health (Fig. 1). The United Nations Guiding Principles on Business and Human Rights provides an internationally accepted framework for preventing adverse impacts from business activities (<https://www.ohchr.org/en/publications/reference-publications/guiding-principles-business-and-human-rights>). The World Health Organisation and others have also delineated the foundations for action, but all acknowledge that these are required at multiple levels, in an integrated approach that involves both top-down and grass roots, bottom-up initiatives³⁴.

We propose that maternal health should be regarded as a fundamental priority that must be upheld at multiple levels, because this is the bedrock of population health, and hence ultimately economic and societal prosperity. Central to a strategy to tackle the commercial determinants of maternal health must be controlling conflicts of interest. Companies should therefore play no part in discussions and decision-making processes that affect sales of their products³⁵. Exclusion of the tobacco industry from public health policy-making is a successful example of controlling their negative, health-harming consequences and should be extended to other industries, given the now overwhelming evidence that they engage in similar practices³⁶. In a similar way conflicts with other industries such as pharma need to be recognised and prevented.

If central government, academic and professional bodies and civil society are to call out conflicts of interest, resources and training are required to recognise routes to harm, such as sponsorship of educational meetings and sporting events, research funding, and donations by industries that actively damage health. Universities and regulatory authorities can point to the dangers of industry-funded studies as currently conducted and develop mechanisms that support product development through transparent research.

Innovative mechanisms are needed to stimulate research investment in maternal health products that might not reap large profits but will be beneficial globally. Civil society, non-government organisations and independent bodies all have a part to play by holding governments to account, advocating for bans on advertising health-harming products, and championing public understanding, awareness and agency. In today's world engagement of traditional and social media channels as champions of this agenda, rather than contributors to the problem, is also essential.

Central and local government actions are crucial to tackling adverse commercial determinants of health, and arguably should be considered in all policies. Government should be smarter at driving bargains for public benefit and placing curbs on corporate greed that limits access to products and services essential to health. A good example is using the collective bargaining power of the NHS to negotiate fair profits for medicines, diagnostics, and devices, and equitable returns on the public sector research that underpins many of these outputs.

Non-governmental organisations and independent bodies can play a crucial part in flagging the actions of the commercial sector, which operates across jurisdictions and sometimes avoids local regulations and fiscal rules, and in holding governments to account. Conversely, at times of urgent need they can raise funds from philanthropy, national governments and international banks, to champion rapid development and deployment of commercially produced products such as vaccines, with lessons about inequities learned from Covid³⁷. Such 'blended' finance is now discussed for climate resilience in maternal and child health³⁸.

While policies may be set nationally, they often need to be enacted at the local level. Prevention of ill-health of a particular population at this level raises an additional set of issues for example in terms of capacity, competing priorities and timescale as discussed by Paul Cairney and Emily St Denny (*Why Isn't Government Policy More Preventive?* (Oxford, 2020; online edn, Oxford Academic, 20 Feb. 2020), <https://doi.org/10.1093/oso/9780198793298.001.0001>). Establishing accountability is essential but may require redirection of local initiatives. For these reasons ensuring a coherent policy requires thorough and sustained involvement of communities at multiple levels. Fundamental to this is the recognition of geographical and socio-economic inequalities which will alter susceptibility to the commercial determinants of maternal health such as poor diets and exposure to pollutants and toxins.

There are many wider societal components which contribute to the commercial determinants of maternal health, as shown in Fig. 1. In particular we highlight the role which schools can play in promoting awareness, engagement and agency among adolescents as future parents. Links to initiatives in universities and hospitals can promote health literacy through activities not available in schools³⁹. An approach to empower young people could involve lowering the voting age, as set out in the current UK Labour

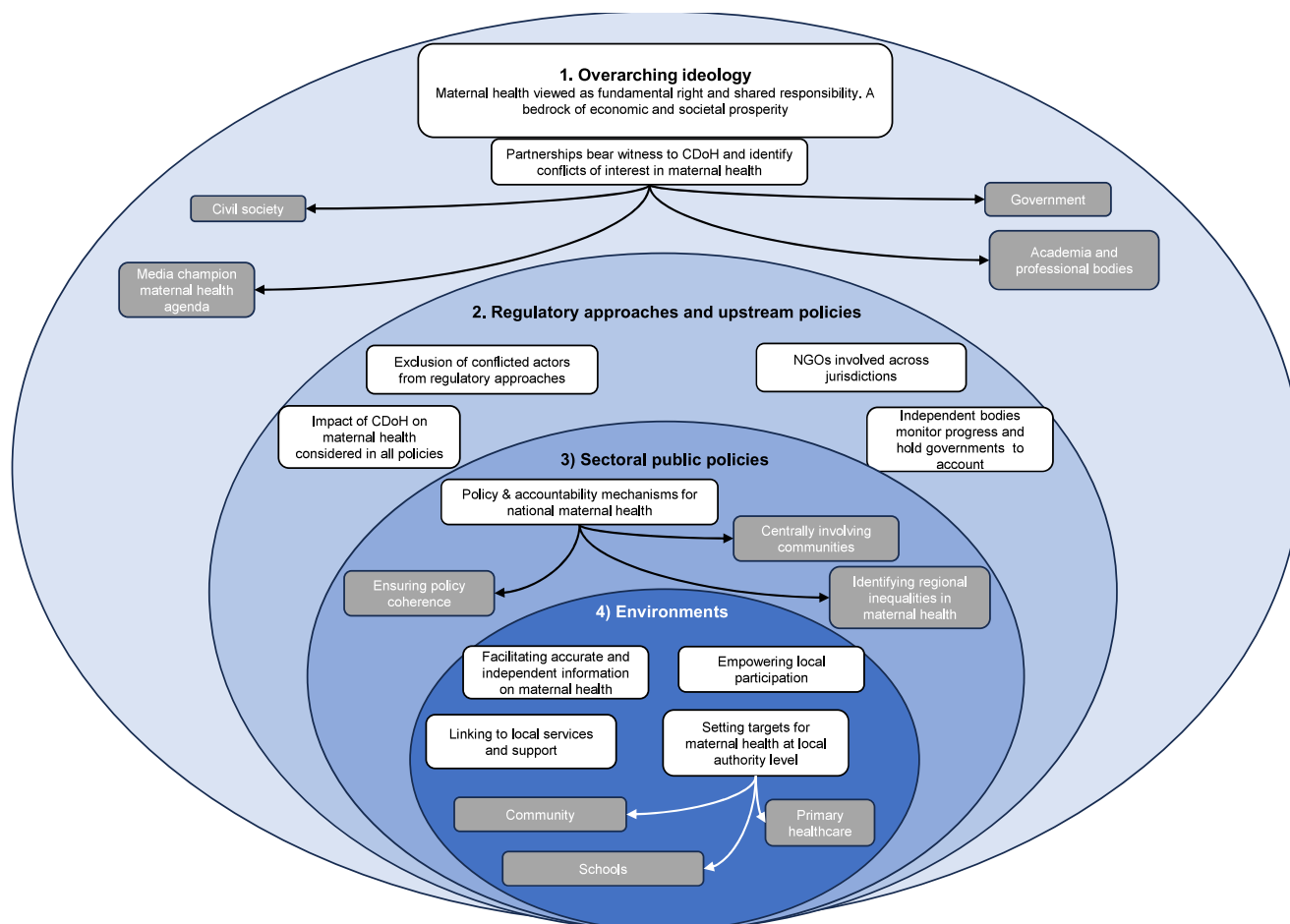


Fig. 1 | Actions needed to protect maternal health from the commercial determinants of health. Actions at four levels to protect maternal and child health (MCH) are proposed, with open boxes showing objectives and grey boxes secondary consequences and actors: (1) Overarching ideology with partnerships established to bear witness to the commercial determinants of health (CDoH) and conflicts of interest with actions by government, academia and professional bodies, civil society and the media. (2) Regulatory approaches and upstream policies, involving independent bodies as well as non-government organisations (NGO) to ensure that maternal health is considered in all policies with exclusion of conflicted actors, and

that independent bodies monitor progress and hold governments to account. (3) National policy and accountability mechanisms for maternal health, involving sectoral public bodies to identify regional inequalities and engaging communities, ensuring policy coherence. (4) Actions at the environmental level, to facilitate accurate and independent information on maternal health, link to local services and support, empower local participation and set targets for maternal health at local authority level, and involving a range of actors including primary health care, schools and communities.

Party's election manifesto. In all settings, where young people have a vote, their health and wellbeing might have greater influence on government policy-making.

Conclusions

Commercial activities are integral to human society. However, the value placed on their benefits must be tempered by equal recognition of their harms. Mothers are especially vulnerable, for reasons of historic gender inequity and lack of agency. Recognising and tackling the adverse commercial determinants of maternal health will benefit individuals, and is morally correct, but will also promote human social, economic and environmental potential. Integrated actions to address this problem as a priority would therefore appear to be a necessity.

Data availability

No datasets were generated or analysed during the current study.

Received: 20 December 2024; Accepted: 27 June 2025;

Published online: 31 July 2025

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Author contributions

M.H. and N.M. wrote the first draft of the paper; F.B., G.C.D.R., A.G., A.K., N.M., A.M.P. and D.R. contributed to the concepts discussed in this paper and approved the final version submitted.

Competing interests

The authors declare no competing interests.

Additional information

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