Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

unmonitored isolation, from the effects of COVID-19, as well as loneliness and mental health deterioration. The risks of using CHWs in this way could be reduced by supervision, with independent monitoring and evaluative research to identify problems early and correct them. The CHWs could visit in pairs to reduce the risks.

People might resist or be reluctant to be visited by CHWs, and they could opt out of home visits at any time, but experience with CHWs in Brazil in the past 30 years suggests this would happen rarely.[4] In Brazil, 250 000 CHWs provide a much needed and relied upon service. CHWs in Brazil have been established for many years, are well integrated into their communities, and provide a wide range of health and social care support activities to each of the 100–150 households that they are responsible for. Therefore, in Brazil, additional roles for preventing the spread of and supporting those infected with COVID-19 or in self-isolation could be integrated into the work of CHWs. Much can be learned from countries with successful experiences of radical, large-scale workforce interventions.[9]

It could be argued that this is an unrealistic proposal and that adapting the existing system or training so many people is too challenging. However, current health and social care systems in the UK are under extreme pressure and could become overwhelmed. In a time of fear, isolation, and growing health inequalities,[10] use of CHWs for the COVID-19 response would boost social coherence and fill gaps that have begun to emerge between health and social care and in-person and virtual access to health care. Our proposal for CHWs would produce a large cadre of people with an understanding of basic epidemiological and public health concepts[11] who could challenge scientific misinformation and explain the rationale for specific health policies and interventions to the public. This approach would also help build a new generation of leaders who can help tackle the complex challenges of our age.

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Centring sexual and reproductive health and justice in the global COVID-19 response

Global responses to the coronavirus disease 2019 (COVID-19) pandemic are converging with pervasive, existing sexual and reproductive health and justice inequities to disproportionately impact the health, wellbeing, and economic stability of women, girls, and vulnerable populations. People whose human rights are least protected are likely to experience unique difficulties from COVID-19.[1] Women, girls, and marginalised

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groups are likely to carry a heavier burden of what will be the devastating downstream economic and social consequences of this pandemic.[2] A sexual and reproductive health and justice framework—one that centres human rights, acknowledges intersecting injustices, recognises power structures, and unites across identities—is essential for monitoring and addressing the inequitable gender, health, and social effects of COVID-19.

The complex interplay between biological and behavioural risk factors needs to be recognised during the COVID-19 pandemic. It is not yet known whether the higher COVID-19 case fatality rates reported in men compared with women in China, South Korea, and Italy[3] to date are attributed to sex-specific biological susceptibility, variations in pre-existing comorbidities, behavioural risk factors, or some combination of these factors.[4,5] In terms of behavioural risk factors, women's risk of contracting COVID-19 may be higher than men's risk as women are front-line providers, comprising 70% of the global health and social care workforce, and they do three times as much unpaid care work at home as men.[2,6] Moreover, pregnant women could be at risk of pregnancy-related complications during the COVID-19 pandemic.[7] Severe acute respiratory syndrome and Middle East respiratory syndrome were associated with increased risk of pregnancy-related morbidity and mortality,[7] but data on COVID-19 are scarce.[8] In China, among nine women in their third trimester with COVID-19, clinical outcomes were similar to non-pregnant adults.[4] Yet another study of 33 neonates born to mothers with COVID-19 identified intrauterine vertical transmission of COVID-19 in three neonates.[9] However, studies to date have been based on third trimester cases and viral infections during pregnancy are typically most severe during the first 20 weeks of gestation.[10]

Disruption of services and diversion of resources away from essential sexual and reproductive health care because of prioritising the COVID-19 response are expected to increase risks of maternal and child morbidity and mortality.[6,7] Globally, there are anticipated shortages of contraception.[11] Sexual and reproductive health providers and clinics, which are the primary care providers and safety net for women of reproductive aged, youth, those uninsured for health care, and people on low incomes in many countries including in the USA, may also be deemed non-essential and diverted to respond to COVID-19.[6] Past humanitarian crises have shown that reduced access to family planning, abortion, antenatal, HIV, gender-based violence, and mental health care services results in increased rates and sequelae from unintended pregnancies, unsafe abortions, sexually transmitted infections (STIs), pregnancy complications, miscarriage, post-traumatic stress disorder, depression, suicide, intimate partner violence, and maternal and infant mortality.[1,12] Additionally, systemic racism, discrimination, and stigma are likely to further compound logistical barriers to accessing sexual and reproductive health care for women and marginalised groups.

Restrictive global policies that target vulnerable populations will exacerbate sexual and reproductive health and justice inequities. The US administration's Protecting Life in Global Health Assistance (PLGHA) policy is of grave concern. The PLGHA expanded the Global Gag Rule (the Mexico City policy), which blocks US global health assistance to foreign non-governmental organisations that provide, counsel, refer, or advocate for abortion services. Three crucial impacts of the PLGHA include decreased stakeholder coordination and chilling of sexual and reproductive health and rights discussions; reduced access to family planning, with increases in unintended pregnancy and induced abortion; and negative outcomes beyond sexual and reproductive health, including weakened health systems functioning.[13] Migration policies of deterrence, including closures at US and European borders, force women to live in informal settlements or conditions of poverty for long periods of time, often without basic sanitation and hygiene or access to health care during antenatal and postnatal periods.

Only when public health responses to COVID-19 leverage intersectional, human rights centred frameworks, transdisciplinary science-driven theories and methods,[14] and community-driven approaches, will they sufficiently prevent complex health and social adversities for women, girls, and vulnerable populations. The way forwards will not be easy. Even rigorous implementation of science-driven approaches might not match the pace of COVID-19 threats in the face of reduced human capacity, shortages of drugs and supplies, and increased demands on already strained sexual and reproductive health services.

For clinical services and programmes, additional resources must be directed to, not diverted from, the sexual and reproductive health workforce so that effective, evidence-based approaches are deployed.

Previous humanitarian crises have shown the crucial role of contraception and medication abortion for the prevention of unintended pregnancy and maternal mortality.[15] Resources also need to ensure access to skilled health workers for deliveries and emergency obstetric care. Telemedicine can be used to provide access to services for medication abortion, contraception, and expedited partner therapy for STI prevention, as well as trauma-informed care for managing gender-based violence, post-traumatic stress disorder, depression, and suicide.[16,17]

Sex-disaggregated mortality and morbidity surveillance data should be a priority in COVID-19 research.[3,5] Plans must prioritise protections for participants but account for gender perspectives, lived experiences, and outcomes in research design, intervention, evaluation, interpretation, and dissemination. Immediate research priorities focused on identifying the pathophysiology of the disease and the development of vaccines and therapeutics should give explicit attention to sex differences in viral transmission and disease progression, biological, social, and environmental risks by gender, and safety of vaccines and drugs for pregnant and lactating women.[18]

All these efforts must be community driven. Recognition of inequitable power structures, distribution of resources, and a collaborative approach dictates the way forward. Advocates must continue to fight the exploitation of the COVID-19 crisis to further an agenda that restricts access to essential sexual and reproductive health services, particularly abortion, and targets immigrants and adolescents.

A sexual and reproductive health and justice policy agenda must be at the heart of the COVID-19 response. The response must ensure that universal health coverage includes pregnant women, adolescents, and marginalised groups and must designate sexual and reproductive health, family planning, and community health centres as essential health providers, reallocating resources accordingly. Policy makers should scale up telemedicine for needed, evidence-based care for women and girls, including sexual and reproductive health care. Finally, the response must eliminate legal and policy restrictions to sexual and reproductive health service provision and reverse the PLGHA and Global Gag Rule to ensure comprehensive sexual and reproductive health care for women and girls around the world.

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