Comment

MANUEL VELASQUEZ/GETTY

A woman sells face masks in Mexico City, having lost her job as a domestic worker.

Women are most affected by pandemics — lessons from past outbreaks

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The social and economic impacts of COVID-19 fall harder on women than on men. Governments need to gather data and target policy to keep all citizens equally safe, sheltered and secure.

Women are affected more than men by the social and economic effects of infectious-disease outbreaks. They bear the brunt of care responsibilities as schools close and family members fall ill[1,2]. They are at greater risk of domestic violence[3] and are disproportionately disadvantaged by reduced access to sexual- and reproductive-health services. Because women are more likely than men to have fewer hours of employed work and be on insecure or zero-hour contracts, they are more affected by job losses in times of economic instability[2].

There has been a "horrifying global surge in domestic violence" since the start of the COVID-19 lockdowns, said United Nations secretary-general António Guterres in early April. Malaysia, for example, reported 57% more calls to domestic-abuse helplines between 18 March and 26 March. Moreover, sexual- and reproductive-health clinics are closing worldwide. Some US states have restricted access to abortions[4].

It is all too familiar. During outbreaks of Ebola and Zika viruses in the past few years,

women's socio-economic security was upended[2], and for longer than men's[1]. During the West African Ebola outbreak of 2014–16, for example, quarantines closed markets for food and other items. This destroyed the livelihoods of traders in Sierra Leone and Liberia, 85% of whom were women[5]. Men lost jobs, too, but 63% had returned to work 13 months after the first case was detected. For women, the proportion was 17% (ref. 2).

At the same time, too little is known about the differential impacts of outbreaks on men and women. And that can leave political and policy responses flying blind. Only a minority of governments collect and share basic, disaggregated sex and gender data on cases of infectious disease and the socio-economic impacts of the response to outbreaks. Analysis remains high level, often conducted after the fact and with incomplete information (go.nature.com/2a9gtja). This time, gaps must be plugged.

Here, we call for COVID-19 research, response and recovery efforts that are tailored to support women (see 'How to minimize the gendered impact of COVID-19'). The three priorities are to tackle domestic violence; ensure access to sexual- and reproductive-health services; and support women's livelihoods.

We recognize that gender is neither binary nor fixed; that the pandemic differentially affects non-binary and transgender people (go.nature.com/2zym8jc); and that gender in global health intersects with other social stratifiers such as ethnicity and race, religion, location, disability and class[6]. Therefore, beyond what we set out here, efforts to reduce the differential effects of COVID-19 must explore these intersections of marginalization and vulnerability.

Domestic violence

Domestic abuse has increased around the world since social isolation and lockdown measures for COVID-19 began[7], affecting women and girls more than men[8]. In March, the media reported that a woman was killed at the hands of a partner every 29 hours in Argentina – that's around 4 more women than the monthly average (go.nature.com/3evkopw). The official statistics are yet to be reported, and are often unreliable because reports tend to omit the victim–perpetrator relationship and motive[9]. With isolation measures restricting the movement of women and their privacy, many will be struggling to access help. Cases of domestic abuse are likely to increase as COVID-19 continues and data are collected[3].

Similar patterns emerged in previous health crises. During the 2014 Ebola outbreak in Guinea, sexual and gender-based violence rose by 4.5% compared with pre-outbreak levels, according to the country's minister of social action, women and children. Last year, a study in Ebola-affected regions of the Democratic Republic of the Congo (DRC) showed that women and girls reported increases in sexual and domestic violence after the outbreak started in 2018 (go.nature.com/3duubsx).

Countries' efforts on the issue in the current pandemic vary widely. In some, it has not been addressed at all – in Kazakhstan, for example, where domestic violence is not a criminal offence[10]. And Hungary declared in May that it would not ratify the Istanbul Convention targeting violence against women, leaving women without protection from domestic abusers (go.nature.com/3ewmmpg).

By contrast, other nations braced for the onslaught. Italy increased the number of domestic-abuse helplines and set up clandestine notification protocols at pharmacies (go.nature.com/2vfxj5f). Australia boosted funding for anti-violence organizations, including those that offer safe accommodation. Kenya bolstered telephone counselling services for those facing domestic violence or the threat of it (go.nature.com/3dbvubn).

To identify where such interventions can

How to minimize the gendered impact of COVID-19

Steps must be taken at three stages on domestic violence, sexual and reproductive health, and jobs.

Before. States must learn from problems and solutions during previous outbreaks, and from the first wave of COVID-19. In May, the World Health Organization issued a briefing document considering the gendered effects of COVID-19 (go.nature.com/3hubc4k). It must follow up with guidelines for best practice.

Such guidance should be integrated into domestic preparedness strategies, detailing which budget lines and indicators to track in national data sets, such as disaggregated case rates, morbidity, mortality, unemployment, crime and so on. For example, of people who have died from COVID-19 in the province of Quebec, Canada, 54% are women, where they make up the majority of care workers and care-home residents. This differs from global statistics, which show more deaths in men. In Kenya, a survey found that more women than men reported a complete loss of income or employment[19]. Can other nations adapt their policies accordingly?

During. Policymakers must accept that outbreaks affect groups differently. Governments must collect intersectional gender-disaggregated data across every aspect of the national response, from incidence and death rates, social protection and employment schemes, to accessing non-pandemic-related health services. Rapid multidisciplinary research on the gendered impact of the virus must be funded and fast-tracked into policy and strategy, and must be supported during the recovery phases. Governments must fund organizations supporting and studying those at risk from domestic violence and survivors. Sexual and reproductive health must be prioritized, protected and studied. Government policies to support livelihoods should be unconditional and broad-based, sensitive to the different impacts on men and women, and iterate as information and the situation changes.

After. Gender must be central to lessons learnt for recovery and future pandemic preparedness. Transition planning must appreciate the wider impacts on domestic abuse, livelihoods and sexual and reproductive health. For example, governments should consider how staged return-to-work policies make women or men more vulnerable to a second wave of infection, and how the rapid lifting of lockdown measures might see a surge in demand from women seeking help over domestic abuse. Any long-term recovery must consider the potential consequences of the depression on the more limited employment opportunities for women, the lower value put on their labour and their economic autonomy.

PATRICK BAZ/ABAAD/AFP/GETTY

Messages against domestic violence hang outside an apartment block in Lebanon.

prevent most harm, there is an urgent need to collect data using a variety of methods. This should be done during and after the outbreak, and should focus on what causes violence and where. Because domestic violence is widely under-reported, innovative methods are required.

Data gathering poses many challenges, particularly during a crisis such as COVID-19. Governments and researchers must work with survivor organizations to understand trends and impacts, changes in contexts and the socio-political dynamics. For example, how are levels of violence changing in response to lockdown or unemployment? To capture the stories of women affected by violence, whose experiences might not be apparent in official statistics, researchers will need to use qualitative methods such as interviews with community leaders, health-care providers and the women themselves[11]. Examples of best practices should be identified and shared to inform future responses to outbreaks.

Sexual and reproductive health

Global health emergencies limit and disrupt sexual- and reproductive-health services; COVID-19 is no different. This dangerous curtailment of women's rights and well-being slows progress towards achieving the UN Sustainable Development Goal on gender equality. Yet, as of 9 June, the World Health Organization's COVID-19 Strategic Preparedness and Response Plan had provided no recommendation on how resources should be channelled to provide safe abortion and ensure the supply of contraceptives.

With governments left to chart their own paths, the consequences have been grim. Contraceptives are still out of stock in Indonesia, Mozambique and many other countries. Abortions in Italy were cancelled, and are still not happening in some hospitals. Coupled with the increase in sexual violence and domestic abuse that happens in outbreaks, these problems reduce the autonomy and self-determination of women and girls, and can damage their health and well-being.

After the Ebola outbreak in Sierra Leone in 2014, some studies estimated that teenage pregnancies were 23% higher than in the previous year[12]. Restrictions on abortions do not necessarily limit demand[13]. Driven underground, these services become unsafe. During the 2016 Zika outbreak — a virus that affects fetal development, manifesting in babies with abnormally small heads, or microcephaly — no national policy changed to increase access to reproductive-health services[14]. As a consequence, women in the Zika epicentre — in Brazil, Colombia and El Salvador — told us, in work currently under peer review, that they sought unsafe abortions through providers they found online, feminist groups and the black market. Because abortion is illegal in most states where Zika was prevalent, there are no official statistics on it.

Government policies on abortion during the current pandemic differ widely, and will lead to different outcomes for women. For example, England changed its legislation in March to permit medical abortion at home through the use of pills (mifepristone and misoprostol) to terminate pregnancy after online consultation with a physician. Conversely, the states of Texas, Ohio, Iowa, Oklahoma and Alabama have further restricted access to abortion, deeming it a non-essential service[4].

The family-planning organization Marie Stopes International estimates that there could be up to 2.7 million extra unsafe

abortions performed as a consequence of COVID-19.

In the short term, policymakers should take three urgent steps. First, they should make contraceptives freely available at pharmacies. Second, they should permit medical abortions at home, in consultation online with a health professional. Third, policymakers should develop a minimum initial service package for sexual and reproductive health to be implemented at the start of every humanitarian crisis. It should ensure access to contraception, obstetric and newborn care, and safe abortion care.

The package should be implemented at the start of every humanitarian crisis. The increases in sexual and domestic violence during the DRC Ebola outbreak reveals the difficulties of prioritizing sexual and reproductive health during emergencies, when health-care systems are already strained. The Inter-Agency Working Group on Reproductive Health in Crises in New York City details what governments and donor organizations should provide to women and girls to meet reproductive-health needs. For example, women are more likely to use services in locations that are less risk-prone, such as in community centres, rather than in hospitals, which are often seen as disease hotspots.

In the longer term, researchers should consider the effects of reduced access to sexual- and reproductive-health services during the pandemic. Comparing how women engage with services during a crisis and normal periods can help to analyse fertility rates or barriers to health care. For example, women changed their reproductive decisions because of the risks posed by Congenital Zika Syndrome, but this was not uniform across society. Fertility declined more in higher socio-economic groups than in low-income groups[15]. Such insights allow governments to target programmes to where they are most needed.

Livelihoods

COVID-19 is decimating livelihoods across the world. The Organisation for Economic Co-operation and Development, the African Union and the International Monetary Fund all predict potentially frightening consequences for national, regional and global economies.

By 27 March, 84 countries had adopted fiscal measures to mitigate the economic effect on households[16]. By 12 June, the number had risen to 195. Most governments increased either the coverage or payout amounts from existing social-protection schemes. Forty-seven countries have made cash-transfer programmes more flexible by waiving conditions such as the requirement for children to attend school and for women to attend ante- and postnatal appointments (such as in the Philippines). Some, such as Armenia, have provided home delivery of payments for elderly people. And 64 governments have amended unemployment benefits; 49 have adopted paid sick-leave interventions[16].

So far, only 16 countries have reported new or amended social-protection measures that make reference to women. Pakistan, for example, has increased cash transfers to women who are already receiving financial assistance from the state. Algeria has introduced paid leave for women who are pregnant, have chronic diseases or are taking care of children. Togo is providing women with US$21 per month, whereas men receive $17: President Faure Gnassingbé specified in April that this was because women are "more directly involved in nurturing the entire household". Canada has increased its national childcare benefit, which is directed to mothers unless otherwise requested. These policies recognize the specific and increased burden that COVID-19 is having on women because of social expectations around caring responsibilities.

"With governments left to chart their own paths, the consequences have been grim."

Yet, most countries' interventions overlook the fact that the economic consequences are likely to be worse for women.

Measures do not sufficiently cover workers in the gig or informal economy, such as street vendors or those on zero-hour contracts. They are at particular risk, because they lack the social protections of those who are formally employed. In particular, in low- and middle-income countries, 92% of women and 87% of men work in the informal economy[17]. Although the difference between these proportions is small, women tend to work in positions that leave them more open to exploitation and abuse, such as in domestic work, home-based work or by contributing to family businesses[17]. High-income countries are not immune to these trends: data from the European Institute for Gender Equality suggest that 26.5% of women employees in the European Union work in precarious employment, compared with 15.1% of men (go.nature.com/3eaabbt).

Women have higher representation in the sectors that are now laying off employees, such as hospitality, travel, education and retail (see, for example, go.nature.com/2zalzme). Many women have had to stop any casual work to meet care duties during lockdown.

Much broader measures are urgently needed for these workers and their families. By 22 May, just 29 of the 190 countries or regions for which information was available had reported commitments to support informal workers financially, leaving millions at risk[16]. Spain has committed to a universal basic income that will protect all workers. By contrast, Hong Kong gives universal payments only to permanent residents. This will not cover the 5% of the city's population who are migrant domestic workers – mainly women[18]. Australia's JobKeeper programme pays wage subsidies to salaried employees during the pandemic, but not to casual workers – who are more often women (go.nature.com/2zalzme).

In the short term, governments should focus on help for informal and casual workers. For example, removing requirements that a person must have had previous taxable income to benefit from COVID-19-related relief, and ensuring that unemployment benefits and statutory sick pay meet basic needs.

This is also a time for innovation. New Zealand, for example, is suggesting a four-day working week to mitigate rising unemployment, to support a better work–life balance and to boost local tourism. The idea comes from a well-being budget that it introduced last year (go.nature.com/2bjt1qa).

To inform the long road out of this global depression, we need to monitor the real-world impact of policies on the hardest hit in real time, so that strategies can be adjusted if necessary. Such research requires sex-disaggregated data on the workforce. The UK government, for example, suspended collection of data on the gender pay gap during the pandemic because it was deemed non-essential. Such information is more crucial now than ever.

Context is key

Broad-brush comparisons of vulnerabilities to COVID-19 responses are to be treated with caution. Gender and its impacts are context-specific, and vary between and within countries. The data collected in other health emergencies in Liberia, Yemen or Brazil can suggest trends. But data sets are often incomplete, and the nuances are highly dependent on race, religion, ethnicity, location, disability and class[6]. Addressing some of the issues that women face in outbreaks highlights a broader landscape of inequalities. Policymakers must consider and support all those at the margins.

Our critics might advocate for other priorities. We're calling on governments to use evidence to ensure that all their citizens have an equal chance of safety, shelter and security. And when the pandemic ends, addressing gender inequality must be at the heart of the broader programme to 'build back better'.

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1. Human Rights Watch. *Neglected and Unprotected: The Impact of the Zika Outbreak on Women and Girls in Northeastern Brazil* (Human Rights Watch, 2017).
2. Bandiera, O. *et al. The Economic Lives of Young Women in the Time of Ebola: Lessons from an Empowerment Programme (Working Paper F-39301-SLE-2)* (International Growth Centre, 2018).
3. Peterman, A. *et al. Pandemics and Violence Against Women and Children: Working Paper 528* (Center for Global Development, 2020).
4. Bayefsky, M. J., Bartz, D. & Watson, K. L. *N. Engl. J. Med.* **382**, e47 (2020).
5. Kabia, A. B. 'Women in Sierra Leone's Labour Market.' *China Daily* (9 February 2016); available at https://go.nature.com/3fswaiz
6. Davies, S. E., Harman, S., Manjoo, R., Tanyag, M. & Wenham, C. *Lancet* **393**, 601–603 (2019).
7. Roesch, E., Amin, A., Gupta, J. & García-Moreno, C. *Br. Med. J.* **369**, m1712 (2020).
8. UK Office for National Statistics. *Domestic Abuse Victim Characteristics, England and Wales: Year Ending March 2019* (ONS, 2019).
9. World Health Organization. *Understanding and Addressing Violence against Women: Femicide* (WHO, 2020)
10. Klugman, J. *Gender Based Violence and the Law* (World Bank, 2017).
11. Fraser, E. *Impact of COVID-19 Pandemic on Violence against Women and Girls.* VAWG Helpdesk Research Report No. 284 (UK Department for International Development, 2020).
12. United Nations Population Fund. *Recovering from the Ebola Virus Disease: Rapid Assessment of Pregnant Adolescent Girls in Sierra Leone* (UNFPA, 2018).
13. Sedgh, G. *et al. Lancet* **388**, 258–267 (2016).
14. Wenham, C. *et al. Glob. Health* **15**, 49 (2019).
15. Marteleto, L. J., Guedes, G., Coutinho, R. Z. & Weitzman, A. *Demography* https://doi.org/10.1007/s13524-020-00871-x (2020).
16. Gentilini, U. *Social Protection and Jobs Responses to COVID-19: A Real-Time Review of Country Measures* (World Bank, 2020).
17. Bonnet, F., Vanek, J. & Chen, M. A. *Women and Men in the Informal Economy: A Statistical Brief* (WIEGO/ILO, 2019).
18. Man, J. 'In Hong Kong, a setback for domestic-worker rights.' *Time* (29 March 2012).
19. Abuya, T. *et al.* 'COVID-19-related knowledge, attitudes, and practices in urban slums in Nairobi, Kenya.' Version 13.0 Harvard Dataverse https://doi.org/10.7910/DVN/VO7SUO (2020).

Sustainable Development Goals: pandemic reset

Robin Naidoo & Brendan Fisher

COVID-19 is exposing the fragility of the goals adopted by the United Nations — two-thirds are now unlikely to be met.

As COVID-19 batters the world and its economy, it's time to rethink sustainable pathways for our planet. Rosy hopes that globalization and economic growth would bankroll waves of green investment and development are no longer realistic. It's unlikely there will be enough money or attention to banish poverty and inequality, expand health care and overturn biodiversity loss and climate change, all by 2030.

The SARS-CoV-2 virus has already killed more than 512,000 people, disrupted the livelihoods of billions and cost trillions of dollars. A global depression looms. The United States and other nations are gripped by protests against structural inequality and racism. And geopolitical tensions between superpowers and nuclear states are at levels not seen for decades.

Things were different back in 2015, when the United Nations adopted 17 Sustainable Development Goals (SDGs) to improve people's lives and the natural world by 2030. It was arguably one of humanity's finest moments — the whole planet signed up. Many national budgets were flush with funds. Governments agreed ambitious treaties, including the Paris climate agreement, the Sendai framework on disaster risk reduction and the Addis Ababa plan for financing development.

Five years on, as the UN celebrates its 75th anniversary, that mood of optimism has gone. In other words, the very foundations on which the SDGs were built have shifted.

The success of the SDGs depends on two big assumptions: sustained economic growth and globalization. COVID-19 has torn these to shreds. The global economy is expected to contract by at least 5% this year, and the timeframe for its recovery is years, not months, if the past is any guide. Industrialized countries struggling to support their own citizens will not bankroll the development of others. Overseas development aid could drop by US$25 billion in 2021. The United States has announced its withdrawal from the World Health Organization. Increasing the scale of human activity on the planet looks foolish when it could open wells of new diseases once hidden in the wild, similar to COVID-19.

Governments have basic worries. Food security is under threat, because farm workers are unable to travel to harvest crops; prices of rice, maize (corn) and wheat are rising. The UN World Food Programme has just doubled its estimate of the number of people who are likely to face acute food shortages this year, to 265 million. Demand for cash crops, such as Kenya's flower exports, has stalled. Ecotourism has collapsed. Even oil-rich developing countries such as Nigeria, Africa's most populous nation, cannot sell their resources profitably in the global slowdown.

And the world will face further stressors in the next decade. More pandemics, yes, but also extinctions and the continued degradation of the ecosystems on which all life depends. Storms, wildfires, droughts and floods will become more frequent owing to climate change. Geopolitical unrest might follow. Mounting costs to address these will divert yet more funding from existing SDG targets. Last year alone, the United States experienced 14 separate billion-dollar disasters related to climate change.

COVID-19 is demonstrating that the SDGs as currently conceived are not resilient to such global stressors. As the UN's High-level Political Forum on Sustainable Development meets (virtually) this week, delegates must chart a new course for the SDGs. As the world recovers from this pandemic, the forum must establish a few clear priorities, not a forest of targets. It should also consider which goals can be achieved in a less-connected world with a sluggish global economy.

Slow or worse

Progress across the SDGs was slow even before COVID-19. Now, it's even more likely that many of the 169 targets will not be met by 2030. Worse, some could even be counterproductive (see 'COVID-19 impacts on Sustainable Development Goals'). Two-thirds of the 169 targets are either under threat as a result of this pandemic or not well-placed to mitigate its impacts (see Supplementary information).

Correction

Women are most affected by pandemics — lessons from past outbreaks

This Comment erroneously stated that 94 countries had reported commitments to support informal workers financially. In fact the number is 29.