THE ISSUE
The Covid-19 pandemic has underscored the importance of a strong health workforce to outbreak response, as well as of vaccine delivery to prevent further outbreaks. Women and men providing care, transporting supplies, analyzing data, and delivering vaccines to patients and their families have all contributed to pandemic-related activities while maintaining a focus on routine health programs. Women comprise an estimated two-thirds of the formal health workforce worldwide—and a high percentage of the unpaid health workforce as well. Yet gender inequities, including those related to training, compensation, and professional advancement, limit opportunities for female health workers to perform their duties and develop professionally, with implications for quality of care and health outcomes. By prioritizing gender equity within their own health workforces; gathering data on gender dynamics within the immunization programs they support; and supporting initiatives to train, retain, and advance the careers of female immunization workers, donor governments—including the United States, working with bilateral and multilateral partners—can strengthen quality of care, improve global immunization coverage, and reinforce health security in the long run.

INTRODUCTION
The latest World Health Organization (WHO)/UNICEF Estimates of National Immunization Coverage (WUENIC) data for 2021 show an alarming decrease in immunization coverage worldwide since the onset of the Covid-19 pandemic. For instance, the share of people with three doses of the diphtheria-tetanus-pertussis (DTP) vaccine dropped from 86 percent in 2019 to 81 percent in 2021, the lowest level since 2008. Such coverage gaps leave more children around the world vulnerable to infections and threaten global health security by creating the potential for outbreaks of vaccine-preventable disease. While there was hope in 2021 that the decreases noted in 2020 were due to pandemic-related lockdowns and therefore temporary, it is increasingly clear that special efforts will be needed to close gaps in routine immunization coverage while maintaining progress on delivering the newer Covid-19 vaccines to adults.

Globally, women make up more than two-thirds of the formal health workforce. And at least six million additional women are estimated to support health programs as community health workers (CHWs), whose efforts may be unpaid, underpaid, or not recognized formally by the health sector. The activities in which CHWs engage may include collecting household data regarding health, communicating health messages, and delivering immunizations to children and adults.

In many countries, the health sector finds it advantageous to engage female health workers in the delivery of vaccines for several reasons. Women balancing work, childcare, and household responsibilities may be more amenable than men to work seasonally or part time, allowing them to offer immunizations during clinic hours or in support of special campaigns. Women who do not have a secondary degree, let alone formal education in the health sciences, may also...
be paid less than men, who are more likely to have access to formal training. At the same time, in places where the practice is to offer immunizations at the household level, official guidance may suggest that mothers are more open to offers to vaccinate their children if the benefits of immunizations are presented by another woman.

Yet women who deliver vaccinations frequently face discrimination and security challenges in carrying out their duties, limiting their ability to visit certain remote areas or communities experiencing conflict, or potentially placing them in danger if they do travel to insecure settings. Together with underinvestment in training that could advance women to more skilled positions and greater leadership roles within immunization programs, these factors may push women out of the immunization workforce altogether, exacerbating shortages of qualified staff in the health workforce more generally. Recognition of the key role health workers have played in the pandemic has galvanized new interest in how to strengthen this critical group. There are now multiple opportunities to examine how creating a more gender-equitable workforce can benefit the delivery of immunizations and improve communities’ protection against vaccine-preventable disease.

**IMMUNIZATION AND CHWS: ESSENTIAL COMPONENTS OF PRIMARY HEALTH CARE**

Vaccines are considered one of the most successful public-health interventions and are a central element of primary health care. Global collaboration to increase access to vaccines gained momentum in the wake of the successful immunization efforts that put smallpox on the path to eradication in the 1960s. In 1974, the WHO created the Expanded Program on Immunization (EPI), aimed at reducing the morbidity and mortality associated with preventable illness by making immunization services available for all children. At the time, “fewer than 5 percent of children in developing countries were receiving a third dose of DTP and poliomyelitis vaccines in their first year of life.”

The global focus on improving access to immunization services laid the groundwork for a greater emphasis on primary health care and the importance of delivering services in the communities where people live and work. In 1978, WHO member states meeting at the International Conference on Primary Health Care issued the groundbreaking Declaration of Alma-Ata, which emphasized that primary health care is essential for reaching the goal of “health for all.” The declaration put forward a view of healthcare rooted in equity, the social determinants of health, and the local delivery of services by members of the community.

More recent global commitments that embrace and extend these core principles have included the UN Millennium Development Goals (MDGs), which listed the proportion of one-year-old children immunized against measles among the indicators for goal 4, “Reduce Child Mortality.” The Sustainable Development Goals (SDGs), which superseded the MDGs, include a goal focused squarely on health and well-being that aims to end communicable diseases and preventable deaths among children, as well as achieve universal health coverage. The Declaration of Astana that emerged from the 2018 Global Conference on Primary Health Care reemphasized the critical role of primary health care, including expanded access to vaccines and strengthened human resources for health.

As efforts to improve both immunization coverage and primary health care advanced, so did health systems’ reliance on CHWs to deliver basic services and function as bridges to formal care. Following the Declaration of Alma-Ata, several countries launched CHW initiatives. At first, many of these programs faltered due to their high costs and lack of meaningful investments, the focus on volunteerism, and other challenges. However, in the mid-2000s, the scarcity of health workers in low- and middle-income countries in the context of the HIV epidemic refocused attention on CHW programs and spurred new investments from governments, as well as international donors, which now provide an estimated 60 percent of community health funding. In the past 20 years, several efforts have emerged to scale up and strengthen CHW programs within countries and across regions. These include the One Million Community Health Workers Campaign, established in 2013 to increase CHWs in sub-Saharan Africa, and the WHO’s push to elevate the importance of CHWs and optimize programs globally.

CHW models vary across countries, and there is no consensus on which one is ideal. As many programs still rely on volunteers, workers are usually unpaid, underpaid (e.g., receiving small sums, perhaps tied to performance targets), or receive non-financial rewards. These positions, which are overwhelmingly held by women, are often not officially recognized by governments and exist outside the formal health sector.

CHWs play essential roles in many health systems and in the delivery of immunization services. They provide health services in remote or underserved areas and bridge...
gaps between communities and the formal health system. Numerous studies have connected CHWs to improved health outcomes in various countries, including immunization rates. In the course of their work, CHWs may collect data on vaccination uptake, promote immunizations, connect families to the health system to access vaccines, and deliver vaccines directly—all of which support broader immunization services. Female health workers in the community can often access households that might be more difficult for male workers to reach due to social conventions and serve as a trusted source of information. Furthermore, during the Covid-19 pandemic they have been important in vaccine promotion, demand creation, and vaccine uptake.

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**CHALLENGES FACING FEMALE HEALTH WORKERS**

Although women drive healthcare delivery around the world, gender inequalities are deeply embedded in health systems and across the healthcare workforce, from the CHWs who serve as the backbones of primary health care in many countries to the highest levels of health leaders and decisionmakers.

Female health workers face a range of gender-related challenges (see Figure 1). While these challenges and inequalities affect female workers across the spectrum, they are acutely experienced by those working in critical, yet often less formal, roles that underpin primary health care, including immunization efforts. These include:

- **High concentration in lower-level positions.** Gender dynamics can act to push and pull women into certain positions on the lower rungs of the health system. While women account for most CHWs and nurses, who play significant roles in immunization promotion and delivery, they represent just 31 percent and 27 percent of ministers of health and heads of World Health Assembly delegations, respectively, and 25 percent of heads and boards of global health organizations guiding decisionmaking. This leadership gap can make it difficult for them to advocate for better working conditions and improvements in quality of care for patients and their families.

- **Gender pay gaps.** Female wage workers earn approximately 20 percent less than male peers in the formal healthcare sector. While some of this difference can be explained by labor characteristics (e.g., age, education, hours worked), a significant share cannot, indicating that women are underpaid even after accounting for other factors. Furthermore, gender pay gaps in the health sector—which are more pronounced than in other economic sectors—significantly increase during a woman’s reproductive years and persist during the remainder of her life, suggesting that motherhood affects pay. In addition, the practice of contracting is common within the health workforce, especially for the positions more likely to be occupied by women, resulting in lower pay, fewer benefits, and less job security.

- **Unpaid or underpaid work.** There are an estimated six million women working in unpaid or underpaid roles that directly support health systems, according to a recent study by Women in Global Health. For those women who do receive financial renumeration, it is often minimal and performance-based. For instance, the more than three million workers in Ethiopia’s Women’s Development Army do not receive monetary compensation for their efforts, which include promoting vaccination in their communities; they instead receive non-financial rewards such as certificates of participation. India’s Accredited Social Health Activists (ASHAs)—about one million strong—receive minimal pay tied to performance (e.g., a set amount of money for each child they help become fully immunized).

- **Lack of formal recognition.** Many CHWs are not officially recognized by their governments as employees and are considered “volunteers” or “community activists.” In addition to the lower pay and limited job security this status confers, these “volunteers” are less likely to be protected by labor legislation and other policies that regulate workplace safety or to benefit from health-related programs such as maternity leave.

- **Poor working conditions.** Female workers, including vaccinators, face gender-based violence (GBV), discrimination, and other security challenges (e.g., they might work alone or need to travel to remote locations). In Ghana, for example, surveys of nurses who had experienced verbal abuse or sexual harassment within the clinic setting have suggested that these workplace stressors lead many female
health workers to leave their posts. During the Covid-19 pandemic, CHWs have faced challenges beyond harassment and violence, including difficulties accessing adequate personal protective equipment (PPE) to prevent infection.

- **Limited training and education pathways for advancement.** Only 49 percent of countries have achieved gender parity in primary education, and the gaps widen at the secondary level; according to UNICEF, only “42 percent of countries have achieved gender parity in lower secondary education and 24 percent in upper secondary education.” In addition, training, education, and mentoring opportunities for women are lacking, as are pathways to more formal health-focused positions. These challenges are pervasive but not insurmountable, and progress has been made. There have been calls from key global health actors—including the WHO, donors, governments, and even health workers themselves—for more equity in the workforce and for CHW models to evolve. One study found that the 30 members of the Organization for Economic Cooperation and Development’s (OECD) Development Assistance Committee—the largest providers of development aid—spent nearly $800 million on projects advancing gender equality in the “health workforce” in 2017, with Canada, the European Union, Germany, Japan, and the United Kingdom among the top funders in this sector. Some governments have made strides to absorb workers into formal systems, and female health workers in other countries have been pushing back against practices and policies that prevent their full professional engagement and development.

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**THE PATH FORWARD: RECOMMENDATIONS FOR LEVERAGING NEW MOMENTUM**

The current global focus on Covid-19 and on improving pandemic preparedness and response capabilities offer tremendous opportunities to advance ongoing efforts to eliminate gender-related barriers to healthcare and enhance the delivery of immunization services. The African Union and Africa Centers for Disease Control

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**Figure 1: Challenges Facing Female Health Workers**

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and Prevention (Africa CDC), the Pan American Health Organization (PAHO), and the U.S. government have announced new initiatives in 2022 aimed at strengthening the public health workforce, with the private sector anticipated to play an important role as well. While details on these initiatives are still emerging, the policy discussions surrounding the announcements underscore the importance of ensuring that primary health care, including routine immunizations, is considered a key element of pandemic preparedness and response efforts.

In May, the Biden-Harris administration announced the Global Health Worker Initiative, which explicitly mentions promoting fair pay for health workers, creating career pathways, and better equipping CHWs, as well as achieving a more gender-equitable workforce. President Biden proposed $1 billion for the initiative in his fiscal year (FY) 2023 budget request, although it remains unclear how funding will be tied to gender-related, CHW, or immunization workforce activities. The ultimate funding level will be at the discretion of Congress as it finalizes the FY 2023 budget.

Complementing the larger health workforce initiative, in June PAHO and the United States announced a joint initiative to train 500,000 health workers over the next five years to help prevent, prepare for, and respond to pandemic threats and other public-health emergencies, while simultaneously delivering health services in vulnerable communities. Establishing education pathways and empowering CHWs are key components. This Action Plan on Health and Resilience in the Americas is expected to be fully implemented by 2030, with the training of healthcare workers as part of the Americas Health Corps to begin in the near future.

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As work on each of these initiatives progresses, it will be important to assess how they address the issues related to gender dynamics and the immunization workforce, as well as the extent to which the efforts align with the administration’s National Strategy on Gender Equity and Equality. In considering the next steps for these new initiatives, the U.S. government, along with other bilateral and multilateral partners and country governments, can also support the creation of a more gender-equitable health workforce to improve immunization services in the following ways:

- Increase the collection of data necessary to understand the scope and scale of gender-related inequalities in the immunization workforce, including sex-disaggregated data, to provide decisionmakers at all levels with evidence upon which to base policy and programming decisions, as well as guide further learning agendas. There is inadequate data on the size of the CHW population due to their informal roles in many settings and involvement in both domestically funded and donor-supported programs; the extent of unpaid work; the experiences of providers themselves; and the impact on immunization services.

- Recognize that addressing gender inequities within the immunization workforce cannot be accomplished in a silo and needs to be integrated with those aimed at reducing inequities and bolstering the workforce more broadly. Furthermore, approaches should target interventions at all levels of systems—in the workplace, within programs and institutions, and within public and private health organizations at sub-national and national levels.

- Move toward longer-term, institutionalized solutions, which could help address gender-related barriers in the workforce. For instance, moving away from an emphasis on shorter-term contracting and toward longer-term positions could improve conditions for health workers, especially women. Additionally, solutions need to be institutionalized at the country level if they are to be sustainable and effective. These would include establishing training and education opportunities so there are concrete pathways to higher-level positions and leadership roles.

- Tie funding to policies that address gender equity within the health workforce, which is critical for effective efforts and sustainability. However, most health systems are inadequately financed, as domestic resources have been fraught and are being further stretched due to external shocks directly and indirectly caused by Covid-19. External donors already play a sizable role in funding health programs, including CHWs, in many low- and middle-income countries, but questions remain about the balance of funding streams for healthcare training and education.
Hold external stakeholders accountable, too, ensuring that their own policies do not contribute to gender-based inequities. Multilateral organizations, donors, implementers, and others play significant roles in norm setting, as well as the funding and running of health programs and activities in communities, including those that address gender-related barriers in many countries. They can set examples by ensuring their own hiring and compensation practices are gender equitable. Coordination among external stakeholders across the donor landscape also is important for setting the stage for civil society advocacy at national and sub-national levels.

Nearly three years into the global Covid-19 outbreak, burnout, pandemic fatigue, and constrained international and domestic financing for the health sector all underscore the importance of maintaining and strengthening the cadres of workers who have become indispensable to primary health care delivery, including for immunizations.

The growing momentum surrounding gender-responsive immunization programming and strengthening the health workforce creates opportunities to close the gaps in global immunization coverage, contribute to the reduction of gender-related barriers in the health workforce, improve access to higher-quality care for adults and children, and strengthen the outlook for global health security.

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4 Ibid., 23.


16 Women in Global Health, Subsidizing Global Health.


18 Ibid.


24 Ibid., viii.


27 Ibid., 17.


33 Yasir, “The Foot Soldiers in India’s Battle to Improve Public Health.”


39 PAHO, “500,000 Health Workers.”
