

Promoting health and wellbeing among the migrant workforce

A global call to action

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WISH 2022 Forum on Migrant Workers' Welfare

CONTENTS

- 03 Foreword
- 04 Section 1. Global labor markets
- 13 Section 2. Qatar under the spotlight
- **38** Section 3. Conclusion and recommendations
- 40 Acknowledgments
- 41 References

FOREWORD

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International migrant workers are an essential part of the labor force across the globe, filling important labor gaps in receiving countries and often contributing financially to families in their home countries. Keeping this workforce healthy is not only a moral imperative, but also economically beneficial, as physically and mentally healthy workers are more productive. Yet migrant workers are more likely to be employed in high-risk industries, such as construction, and face unique health challenges when compared to their non-migrant counterparts.

Over the last two decades, there have been increasing calls to improve the health and welfare of low-wage migrant laborers, particularly in areas with large numbers of these workers, such as the Middle East. High-profile events accompanied by large infrastructure projects, such as the FIFA World Cup Qatar 2022[™] (FWC22), have attracted international media scrutiny over employment practices in the region, but also provided a catalyst for introducing important improvements in workers' rights, employment conditions and access to healthcare.

The first section of this report provides a global overview of the international migrant worker population and the health challenges they face. The second section examines the health of, and healthcare services available to, migrant workers in Qatar, with a focus on how the situation has evolved in the run-up to FWC22. The report concludes with a series of recommendations for improving the health of this workforce, both in Qatar and globally.

While much work is still to be done, we hope that this report will provide concrete actions for governments, policymakers and employers to continue to improve the health and wellbeing of migrant workers around the world.



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SECTION 1. GLOBAL LABOR MARKETS

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The global migrant workforce

The International Labour Organization (ILO) defines international migrant workers as persons of working age present in the country of measurement and who are in one of the following categories:

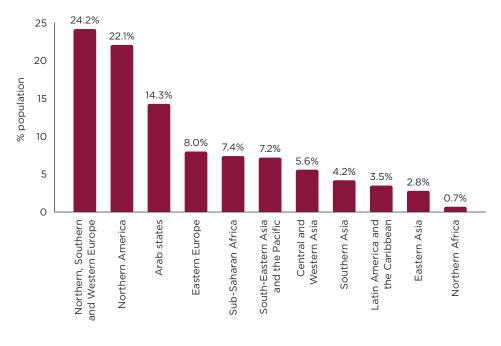
- **a.** Usual residents: international migrants who, during a specified reference period, were in the labor force of the country of their usual residence, either in employment or in unemployment.
- b. Not usual residents, or non resident foreign workers: persons who, during a specified reference period, were not usual residents of the country but were present in the country and had labor attachment to the country.

In 2019 there were an estimated 169 million international migrant workers. The majority (58.5 percent) are male, but a significant proportion are female (41.5 percent). Labor markets around the world rely on migrant workers to fill gaps in many economic sectors including domestic labor markets, agriculture and construction.¹

International migrant workers are important drivers of economic and social development for both countries of origin (through remittances) and destination countries (through a country's gross domestic product). The three subregions that host the majority of international migrant workers are Europe (Northern, Southern and Western), North America and the Arab States (Figure 1). The highest share of migrant workers, predominantly men, is observed in the Arab States, constituting 41.4 percent of the labor force in the region.²

Health is an important prerequisite and outcome of labor. According to the Office of the United Nations High Commissioner for Human Rights, states should use occupational health and national health policy to systematically address the health vulnerabilities of migrant workers.³ Networks such as the Migration, Health, and Development Research Initiative⁴ are contributing to a growing body of global evidence around health and migration that can be used for policy development.





Source: ILO (2021).5

The health and wellbeing of migrant workers in hazardous sectors

Migrant workers are more likely to be employed in dangerous work adversely affecting their health compared to non-migrants.⁶ The construction, fishing and agriculture sectors are recognized as hazardous and rely on temporary international migrant workers who tend to be young and male. Their work is mainly low skilled, physically demanding and dangerous. The literature demonstrates a negative relationship between temporary employment and occupational health and safety.⁷ In many parts of the world, the standard of occupational health frameworks and provisions to ensure safety regulations are poor; as pointed out by the World Health Organization (WHO), in many countries, more than half of workers are employed in the informal sector with no social protection for seeking healthcare, and lack of regulatory enforcement of occupational health and safety standards.⁸

Low-wage migrant workers are exposed to a layered set of vulnerabilities that can include illegal or exploitative treatment by employers, substandard accommodation, and exclusionary legal frameworks that impact on migrant rights and entitlements. This is especially true for workers in sectors that have limited oversight, or at the lower end of subcontracting chains, in construction, for example.⁹ Migrants working in low-skilled jobs frequently face greater exposure to outdoor work, which can lead to heat-related sickness in the summer months. They are often exposed to musculoskeletal¹⁰ and other severe physical pain¹¹ due to working conditions. In addition, headache, respiratory, and gastrointestinal diseases are common health problems.¹² The prevalence of having at least one occupational morbidity is 47 percent, according to a large meta-analysis of international migrant workers mostly employed in unskilled manual labor.¹³ The research included in the meta-analysis was mixed, with some studies finding no difference in occupational health outcomes between migrant and native workers, and others finding migrant workers to be at increased risk of physical and psychiatric morbidity.

International migration for work can have a mixed impact on health. There can be a positive impact as employment and income themselves are important health-promoting factors. Studies demonstrate how important income is for mental health.¹⁴ The worker's family benefits from remittances that strengthen their ability to make healthy choices. However, for the low-wage migrant, factors such as nutrition, housing, hygiene, and living a family life, are often negatively affected by the migration process and employment. Health issues are often both physical and mental, with a demonstrated higher risk for psychological conditions and depression.^{15,16}

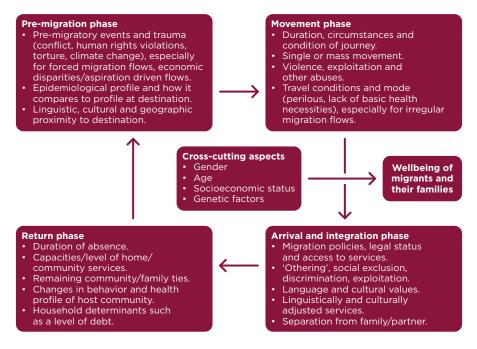
Health and different phases of migration

The ability of international migrant workers to make informed choices concerning their health and wellbeing is often restricted by low education levels, low (health) literacy, and limited knowledge about a host country's regulations, access rights and provision of healthcare.¹⁷ Restrictive migration policies and legal barriers can also impact on their health and wellbeing.¹⁸

Even when health insurance is available, migrants may struggle to access health services because of language and cultural barriers.¹⁹ This illustrates the importance of designing healthcare for migrant workers that has a framework of inclusion and that also considers the wider determinants of health.

While hosting countries often strongly emphasize quality control on pre-departure medical screening, the same attention has not been focused on continually monitoring the health and working conditions of migrants. As a result, there is a lack of data in this area.²⁰ The health of a temporary migrant worker needs to be observed, understood and promoted over the whole process of migration (Figure 2).²¹

Figure 2. Factors influencing the health and wellbeing of migrants and their families along the phases of migration



Source: Wickramage K et al (2018).²²

International agreements on migration and health

Many international instruments include reference to the right to health as a fundamental human right. In addition, intergovernmental agreements on migration such as the Global Compact for Migration²³ highlight the need to ensure access to healthcare and social inclusion for migrant workers. Such agreements consider the health of migrants from different perspectives, focusing on health as a prerequisite for successful migration and integration, and as a means to prevent public health threats.

Ensuring migrant health is also an inter-regional endeavor, depending on sending, transit and receiving countries, often in different geographic regions. This has been recently reaffirmed by Ministries of Health from three WHO regions (Europe, Africa and Middle East) during the high-level meeting on health and migration organized by WHO Regional Office for

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Europe in March 2022. In this event, the Ministries of Health reaffirmed a joint commitment to the global agenda on refugee and migrant health, and outlined strategic priorities beyond 2022 for the three regions.

However, regions can be at different stages in advancing the migration health agenda, making inter-regional dialog more challenging. For instance, commitments have only recently been taken by African countries in 2020 with the launch of the African Union program on the health of migrants²⁴ and a related study and policy paper on understanding migrants' health in different African countries.²⁵ Health aspects of migration, particularly for irregular migrants, are still a challenge. The African Union Migration Policy Framework for Africa and Plan of Action 2018-2030²⁶ is the first continental attempt by African Member States to identify the health of migrants as a cross-cutting issue, and commit to the inclusion of migrants in national health plans. Despite this progress, African Union Member States are at different stages in the actual implementation of health for all, since they are still struggling to offer healthcare and universal health coverage (UHC) for their own citizens. It is notable that, in this situation, countries have resisted providing health access to migrants, particularly if working in irregular situations.

National legal regulations and access to health

Legal regulations on access to health for migrant workers vary considerably between nation states. European welfare states grant access to a full range of services through integration into national insurance systems. Other countries with more restrictive regulations, such as Singapore, limit the level of legal access to healthcare depending on the skill level of the labor.²⁷ In countries where health systems are fragile, everyone (including migrants) may suffer from restricted or non-existent access to health services and social protection.

Studies indicate that, in practice, migrant workers face considerable obstacles to care and support in every model. For example, European public health systems struggle to provide equal inclusion for migrant patients, especially for those of low socioeconomic status. In Singapore, injured foreign workers can be left without an income while waiting for compensation claims under the Work Injury Compensation Act.²⁸

While there is progress still to make in improving the health of migrant workers, there are promising initiatives being implemented, as illustrated by the following case studies.

Europe: The migrant-friendly hospital initiative

Migrant-friendly hospitals were set up to ensure equal access to healthcare services for migrant patients. Sponsored by the European Commission and co-ordinated by the Ludwig Boltzmann Institute for the Sociology of Health and Medicine, the initiative brought together hospitals from 12 of the 15 European Union Member States between 2001 and 2004 to engage in a three-year process of evidence-led organizational development. An initial needs assessment showed that the priorities were: improvements in interpreting services; better access to appropriate patient information; and staff training to improve communication with patients from diverse cultural backgrounds. Evaluation after two years demonstrated improvements in infrastructures, awareness of staff members, and empowerment of migrant patients who participated in workshops to improve their health literacy.²⁹ Recommendations on policy and practice were launched as the Amsterdam Declaration Towards Migrant-Friendly Hospitals in an Ethno-Culturally Diverse Europe.³⁰

Singapore: Project Dawn

In 2020, a taskforce named Project Dawn,³¹ comprising representatives from Singapore's Ministry of Manpower, Government psychologists, the Institute of Mental Health, the Migrant Workers' Centre and the non-profit organization, HealthServe, was set up to enhance the mental health support for migrant workers in Singapore. The taskforce is following a strategy consisting of primary, secondary and tertiary prevention and treatment and is being implemented in three phases:

- **1.** Raising awareness and supporting good mental health practices for migrant workers.
- **2.** Strengthening the care system to improve migrant workers' access to mental health services.
- 3. Enhancing integration and support in the community.

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In 2022, it was reported that 170 migrant workers had been trained by HealthServe to act as peer support leaders to spot signs of distress in their community. HealthServe's 24-hour crisis hotline has received thousands of calls since its launch in 2021.³²

East Africa: Regional Ministerial Forum on Migration

The Regional Ministerial Forum on Migration was launched in January 2020 to establish political leadership and foster protection of migrant workers in and from East Africa. The Forum brings together 11 States from the East and Horn of Africa region. The aim is to jointly address labor migration policies, foster labor mobility and protect the fundamental human, labor and social rights of migrant workers within the continent, and those migrating to other countries.^{33,34} Participating States agreed to collaborate and strengthen labor migration governance in the East and Horn of Africa region by establishing a platform for experience sharing, consultation, dialog, and setting recommendations. The Forum's work is guided by the relevant regional and global initiatives addressing migration.

Improving access to healthcare for migrant workers

International migrant workers face similar challenges to health and wellbeing across nations, regions and continents. Many host states have made insufficient efforts to mainstream the needs of temporary labor migrants into their national health policy frameworks.

Despite the relevance of health within migration policies and its implications for work, health is often given a minor role in bilateral agreements and negotiations. Governments may be tempted to let policy follow profit, with low protection and regulation making labor cheap and profit high. However, governments should work proactively to establish sustainable frameworks that safeguard health and wellbeing of temporary migrant workers through the whole process of migration.

National decision-makers could consider the following questions when developing strategies to protect the health of international migrant workers:

- What are the national legal regulations surrounding access to healthcare and the wider determinants of health for migrant workers?
- Can migrant workers access their defined entitlements, and how can better access be fostered?
- Who are the main stakeholders in connecting migrant workers with access to healthcare and wider determinants of health, and how can these stakeholders engage in dialog?
- What frameworks and models of protection of health and wellbeing are in place, and how can they be embedded into a comprehensive strategy?
- How can the occupational health and safety measures for this important working population be enforced?
- Can migrant workers access affordable and appropriate healthcare and insurance coverage?

An intergovernmental, globally oriented 'health framework' is also needed to provide guidance and infrastructure in major migration corridors. Such a framework should bind recruiters, sending states, employers, and receiving states to health commitments for temporary labor migrants. Countries that come into the spotlight through major sporting events – such as Qatar (see the next section) – can serve as an incubator for the development of appropriate global frameworks that support the health and wellbeing of temporary migrant workers. Analyses of critical factors to consider and recommendations on how to do this have been recently published by the Regional Ministerial Forum on Migration.³⁵

SECTION 2. QATAR UNDER THE SPOTLIGHT

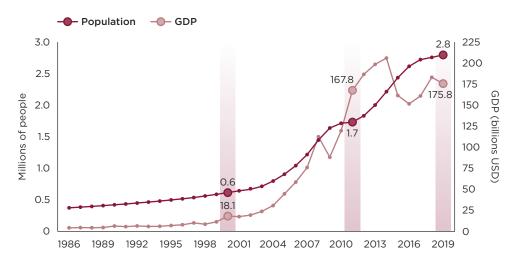
Vidya Mohamed-Ali, Saleh Ali Al-Marri, Abdulla Al-Ansari, Mohammed Al-Maadheed

This section provides a situational analysis of the health of, and healthcare services available to, male migrant workers in Qatar.

Background

Qatar has witnessed an explosion in economic growth and population over the past four decades. Between 1986 and 2019, the population increased from 373,000 to 2.8 million, with much of this driven by immigration, as non-Qataris now make up 85 percent of the population.³⁶ The decade between 2000 and 2010 saw the highest rise, with an average annual population increase of 19.14 percent in 2007 (see Figure 3).

Figure 3. Qatar population and gross domestic product (GDP), 1986–2019



Source: Qatar Population and Statistics Authority (2019).37

This vast economic development – particularly across the construction, petroleum, airline and commercial industries – has led to a surge in labor migration to contribute to related infrastructure projects. This influx of male, low-wage, migrant workers from Asia and Africa has been largely beneficial to workers and the Qatari economy, but it has also presented challenges. While these workers have contributed to rapid progress of ambitious construction projects and the development of other sectors,

the swell in Qatar's population created bottlenecks in several areas – including housing and transport – while putting enormous pressure on the healthcare system.

This section assesses the healthcare services available to low-wage, male migrant workers in Qatar, with a focus on how the Supreme Committee for Delivery & Legacy (SC) has worked to provide services for workers contributing to the 2022 FIFA World Cup Qatar 2022™ (FWC22) infrastructure projects. It examines access issues and health outcomes for this group to identify areas for improvement and transferrable lessons to improve migrant worker health globally.

Qatar's craft and manual worker population

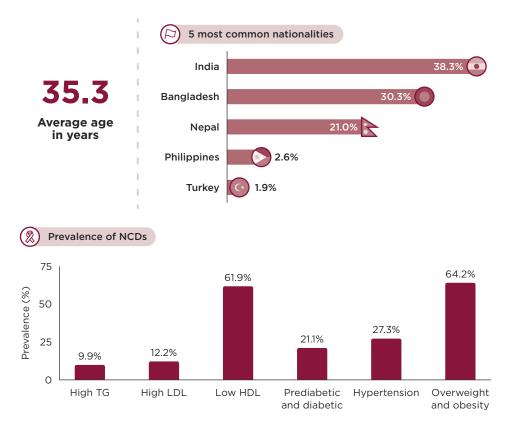
In 2004, craft and manual workers (CMWs) – the term used to describe low-skilled and unskilled male migrant workers* – accounted for 25 percent of Qatar's total population of 744,029. This group grew to 51 percent (over 1.4 million of the total 2.8 million population) by 2020,³⁸ due partly to the additional CMWs recruited to work on various infrastructure projects ahead of the FWC22, including tournament venues and wider infrastructure projects.

Typically, these workers tend to be young (25–39 years old), have low levels of educational attainment (below secondary education), come primarily from East and South Asian countries, live in shared accommodation, and work in the construction industry.^{39,40} As part of their pre-employment health screening program – described further in Case study 2 – the SC, in partnership with the Qatar Red Crescent Society (QRCS), collected an expanded array of data about workers employed for FWC22 projects, including nationality, age and medical histories. This information provides deeper insights into the health of this specific population (see Figure 4).

While there may be a perception that these workers are 'healthy' young men, a majority of CMWs screened by the SC have some form of dyslipidemia – unhealthy levels of fat (high triglycerides, high LDL-cholesterol and/or low HDL-cholesterol) in the blood that can lead to cardiovascular disease. Further, more than a quarter of the CMW population are hypertensive, over 20% are prediabetic or diabetic and over 50 percent are overweight or obese. Many of these conditions were pre-existing prior to their arrival in Qatar and often newly diagnosed on arrival.

^{*} CMWs are classified as those employed as crafts and related tradesworkers, elementary occupations, and machine operators.

Figure 4. Overview of craft and manual worker (CMW) population working on FWC22 projects



Source: SC/QRCS screening project (n=24,720) across two QRCS health centers (Mesaimeer and Al Hemaila) in 2018.

CMW healthcare access and use

Qatar's health system

Qatar's health system comprises a mix of public and private providers across the full spectrum of care, from prevention and primary care to mental health to specialized hospital services. All healthcare institutions are overseen and regulated by the Ministry of Public Health (MOPH). Hamad Medical Corporation (HMC) and Primary Health Care Corporation (PHCC) are Qatar's largest government-owned healthcare entities and provide the majority of healthcare services in the country.⁴¹

Qatar's government healthcare system is available to all residents, including CMWs. Medical care is free for Qataris and is highly subsidized for expatriates, who gain access to health services via a health card which is purchased annually for a small fee and often provided by employers.

Private health insurance is also available – either through large employers as part of employee benefits, or for individuals to purchase. The share of the population with private insurance has increased in recent years.⁴²

Qatar's most recent National Health Strategy 2018–2022 aims to create a more patient-centered healthcare system with the goals of better health, better care, and better value. The wide-reaching strategy focuses on promoting health, rather than simply treating disease, and improving care integration across settings. The strategy also includes actions to address seven priority groups – including 'healthy and safe employees' – underpinned by five system-wide priorities to improve care for all (see Figure 5).⁴³



Figure 5. Qatar National Health Strategy (2018–2022) priority areas of focus

Source: Qatar MOPH.44

The commitment to healthy and safe employees – including the 1.4 million CMWs – builds on the National Health Strategy 2011–2016, which set out a number of occupational health goals, including reducing occupational diseases, injuries and workplace deaths, establishing occupational health capabilities within the MOPH, and enhancing data collection in this area.⁴⁵

Health services and access for CMWs

Prior to acquiring a visa to enter Qatar, all expatriates – including CMWs – are required to pass a mandatory screening to join the workforce. This screening is aimed at protecting the host population in Qatar from communicable diseases as well as benefiting workers by detecting health risk factors that may be exacerbated by the work they are contracted to do. It includes testing for tuberculosis, HIV/AIDS and hepatitis B and C, along with a chest x-ray.⁴⁶ After CMWs pass their health check, their employers apply for a Qatar Residency Permit on their behalf, followed by their

health cards, which enable them to access free health services – although health cards will soon be replaced by private insurance, which employers will be required to provide to all non-Qatari national employees.⁴⁷ Usually, employees receive their Qatar Residency Permit within one month of application, though the wait to receive a health card can vary from one to six months.⁴⁸

While all CMWs receive the baseline screening outlined above, the SC has also implemented comprehensive medical screening for workers prior to being deployed on projects for the FWC22 as an additional measure to ensure early detection of underlying issues (see Case study 2).

CASE STUDY 2. COMPREHENSIVE HEALTH SCREENING FOR WORKERS FOR FWC22

In 2018, the Supreme Committee for Delivery & Legacy (SC) introduced a comprehensive medical screening (CMS) program, in partnership with the Qatar Red Crescent Society (QRCS), to provide a full medical examination for workers, including mental health assessment. The goal of this program is to detect underlying health issues at an early stage to provide effective medical treatment and to optimize worker health. The program is also supported by a dedicated cardiac pathway with Hamad Medical Corporation (HMC) to carry out cardio-related evaluations and treatment of high-risk workers.

These screenings ensure that workers are fit to work before being mobilized on site, that they are well-suited for their tasks, and that they receive appropriate care plans in case of any medical issues. As of August 2022, more than 42,600 SC workers have received comprehensive medical screenings to date.

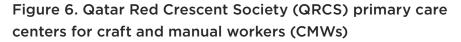
These medical screenings also proved to be pivotal in identifying high-risk workers throughout the COVID-19 pandemic, and high-risk workers who may be more susceptible to heat-related disorders, which helped the SC provide them with the necessary medical and mental health support. Legislation adopted country-wide in May 2021 now also requires annual health screenings for outdoor workers.⁴⁹

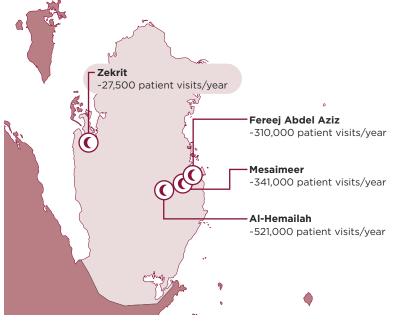
This program has been renewed with new medical partners and continues to be funded by the SC. Workers are also registered via electronic medical records software, which was introduced by the SC in collaboration with the Phoenix Partnership, to provide centralized access to workers' medical history. This is a first-of-its-kind healthcare initiative on a major construction program in the region, enabling more efficient healthcare data management for workers. This also allows workers to have access to their own medical files (online and via smartphone app) and to share it with their medical practitioner wherever they are employed.

Source: SC (2022).50

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Since 2010, QRCS has had an agreement with the MOPH to provide primary care free of charge to Qatar's male CMWs who have health cards – and often, in practice, QRCS provides services to those without health cards. Female migrants in low-wage occupations receive primary healthcare from the PHCC clinics. QRCS currently operates four primary care centers – which operate as polyclinics for low-complexity services as well as some urgent care services – for CMWs, with over 700 medical and administrative staff whose nationalities and languages reflect those of the CMW population (see Figure 6). These centers, located near CMW accommodations to facilitate patient access, provide various specialist medical care services – including ear, nose and throat (ENT); cardiology; dentistry; ophthalmology; endocrinology; urgent care; laboratory; radiology; and pharmacy – in addition to general medicine.⁵¹





Sources: QRCS (2021).52

CMWs receive secondary and emergency care from HMC hospitals, as these services are not provided by QRCS or company clinics. Additionally, secondary mental health services have been provided for this population at Hazm Mebaireek General Hospital (HMGH), an HMC hospital dedicated to serving CMWs in the Doha Industrial Area (DIA). HMGH's psychiatry services include inpatient and outpatient services as well as dedicated clinics for large organizations such as the SC.⁵³

To improve patient access, both QRCS and HMC collect patient feedback and offer translation services and health literature in a number of languages, including Hindi and Urdu. There have been attempts to provide an accountable care-type system for CMWs as they tend to have different needs and different ways of accessing healthcare. QRCS has also implemented a number of innovative strategies to address the lack of health literacy and awareness in this population, as shown in Case study 3.

CASE STUDY 3. INNOVATIVE APPROACHES TO ADDRESS HEALTH AWARENESS AMONG CMWS

Qatar Red Crescent Society maintains a team of 20 health educationcertified staff (primarily nurses), of multiple nationalities, who provide education and training to CMWs through in-person sessions in waiting areas and dedicated education areas within clinics, as well as directly in the workplace. They also share information through social media.

The health education team hosts at least two formal presentations per week at each center, one-off sessions linked to specific global health events (such as World Diabetes Day), and ongoing prevention and awareness campaigns with partners such as the Ministry of Public Health and the Hamad Medical Corporation.

Select informational campaigns and initiatives aimed at improving health literacy have included:

$({}^{\diamond})$ 1. Dietary training and consultation

Novel program using plate sizes to explain portion control and provide counseling on ways to mitigate negative or unhealthy eating.

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2. Medication dosage and compliance

System uses color-coding to help CMWs recognize different medications and appropriate dosage and timing.

(⊡) 3.

3. Occupational safety training

Animated videos are played in clinic waiting rooms to highlight key health and safety issues. These videos target those who cannot comprehend written material.

Source: Al-Harahsheh S et al (2019).54

21

Challenges and barriers to access

While Qatar has significantly improved healthcare access for its CMWs (see Case study 4 relating to work done by the SC), several challenges still exist. These are explored in depth in the 2019 WISH and Georgetown University in Qatar Policy Brief, *Improving Single Male Laborers' Health in Qatar*, and summarized below.⁵⁵

- Health literacy and awareness: CMWs typically have low levels of educational attainment and health literacy. Further, they may be unaware of the services available to them or when they need to seek care.
- **Stigma and cultural issues:** Many CMWs come from countries and cultures where seeking treatment, particularly for mental health issues, comes with shame or stigma.
- Fear of punishment: Some CMWs express fear that they will lose employment if they become ill, or are hesitant to ask for time off work to address healthcare concerns.
- Access to health cards: Although employers are required to apply for and cover the cost of their employees' health cards, delays in doing so go unpunished. The power imbalance between CMWs and their employers may make workers hesitant to request health cards in a timely manner. It remains to be seen how access will change when the new private insurance requirement is fully phased in.
- **Cost:** While primary care services from QRCS are free for CMWs, they may be required to cover co-payments for certain services and medications (see Table 1). Even nominal fees can be overwhelming for low-wage workers and can prevent them from seeking care.
- **Transportation:** Many CMWs have difficulty in accessing public transportation due to language barriers, literacy issues, or cost. While certain services are located near worker accommodations, many workers do not have services within easy walking distance. Further, though large employers of more than 500 CMWs must have doctors and nurses on site, anecdotal information suggests limitations in the quality of these services.

Solutions to alleviate these barriers to access must be explored if Qatar is to continue to improve the quality of healthcare services for this population.

CASE STUDY 4. SUPREME COMMITTEE FOR DELIVERY & LEGACY (SC) EFFORTS TO ENHANCE CRAFT AND MANUAL WORKER (CMW) ACCESS TO HEALTHCARE SERVICES

As part of its efforts to enhance workers' access to healthcare, the SC monitors whether contractors provide health cards to workers free of charge. While most workers' accommodations and project sites are equipped with medical facilities, workers are also provided with free transportation to avail services at other health centers and hospitals. Through its audits and inspections, the SC aims to ensure that workers have access to healthcare services. The SC continues to raise awareness about the various initiatives in place for workers' wellbeing.

The SC has also spearheaded significant healthcare initiatives such as the cardiac pathway and mental health pathway to provide workers with better and faster access to treatment, while eliminating financial or social constraints.

Source: SC (2022).56

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CMW health issues and outcomes

In the run-up to FWC22, the welfare and health – and fatalities in particular – of CMWs in Qatar have often been reported by international news outlets. It is worth reviewing the wide range of health issues facing these workers and examining the data on health outcomes achieved by the local health system.

Below, we build on several peer-reviewed articles to provide a relatively comprehensive picture of the health of Qatar's CMWs, particularly for work-related injuries,⁵⁷⁻⁶² heat stress,⁶³ non-communicable diseases,^{64,65} and social determinants of health^{66,67} – all of which have been identified as key issues for this population.

Work-related injuries (WRIs) and deaths

The vulnerability of the low-wage migrant workers in Qatar to WRIs has drawn much attention, locally and internationally.⁶⁸⁻⁷⁰ Hamad Trauma Center – which receives 98 percent of the country's trauma patients – conducted several studies addressing the issue of WRI in Qatar.⁷¹⁻⁷⁵ Falling from height, falling objects and road traffic accidents while traveling to or from work, were the main causes of injuries and fatalities. The rate of WRI has decreased over the years, despite significant increases in the numbers of CMWs (see Figure 7).⁷⁶ This decrease in WRI may be linked to the increased safety awareness among construction workers and companies – such as the SC's Training & Upskilling program, a partnership with Qatar International Safety Centre which tackles this issue.



Figure 7. Rate of work-related injuries and size of the workforce in Qatar

Source: Hamad Trauma Registry (2008-2016).77

In-hospital mortality has also fallen significantly, from 9.7 percent to 5.2 percent,⁷⁸ along with a reduction in the cost of hospital treatment. These improvements may be due to implementation of standardized pre-hospital care, trauma resuscitation and treatment protocols.⁷⁹

Qatar recorded 117 work-related fatalities in 2017, 123 in 2018, and between 50 and 66 in 2020, depending on the source.⁸⁰ Work-related fatalities are difficult to calculate for a number of reasons – from challenges in death registrations to different systems of categorization of these injuries by different institutions, to incomplete data across multiple facilities. Further, the pandemic compounded these issues.⁸¹ However, the drop in fatalities remains promising.

In November 2021, a collaboration between the Ministry of Labour (MOL), the MOPH, and the ILO, along with academic partners, assessed the quality of occupational safety and health data collection and analysis, using the most recent available data from the Unified Registry for Work-place Injury Prevention in Qatar.⁸² Of the 50 fatalities reported on this database in 2020, 30 occurred pre-hospital (60 percent), and 20 occurred in hospital (40 percent). Consistent with previous data, a majority of fatalities resulted from falls and road traffic accidents, and occurred at work. A proportion of these fatalities (32 percent) were due to 'unknown' causes, mostly in the pre-hospital setting, attended by the ambulance service (see Figure 8).

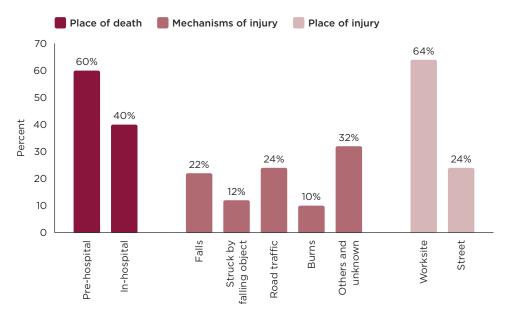


Figure 8. Fatal work-related injuries in craft and manual workers (CMWs) in Qatar, 2020

Source: ILO.83

Initiatives from the ILO, MOL and MOPH have provided the impetus to expand data collection, check their veracity, identify gaps in the data, and put measures in place to address them. Problems that remain are related to data on the cause of deaths that occur outside the hospital setting (25-32 percent of total deaths). This could, to a large extent, be attributed to the cause of death not being ascertained by post-mortem examination due to issues related to the inability to obtain timely consent from next of kin, and also the standard practice in Qatar for post-mortem examinations to only be conducted in cases of criminal investigation. The high proportion of workers whose cause of death is recorded as due to "natural causes/cardiac arrest" may underestimate true work-related deaths – and this prevents family members from receiving due compensation.

Country comparisons

It is extremely challenging to compare occupational injury rates, and particularly deaths, across countries – for instance, labor markets vary widely, and 95 percent of workers in Qatar's private sector are migrants, and migrant workers are more susceptible to occupational injuries in any country.⁸⁴ A large proportion of migrant workers are employed in the construction industry, which is universally recognized as one of the most hazardous sectors of work.⁸⁵ Also, as detailed earlier in this section, there is also a lack of comprehensive, reliable and comparable data within countries, and varying definitions of what constitutes a work-related injury or death.

A search for recent work-related death rates found that France and the USA report rates of 3.1 and 3.5 deaths per 100,000 population, respectively, while one source puts Nepal at 28.8; this places Qatar's estimate of 5-8.7 somewhere in the middle.⁸⁶⁻⁹⁰ Unfortunately, reliable comparisons for other Gulf Cooperation Council (GCC) countries were not readily available. However, all figures should be treated with care for the reasons outlined above.

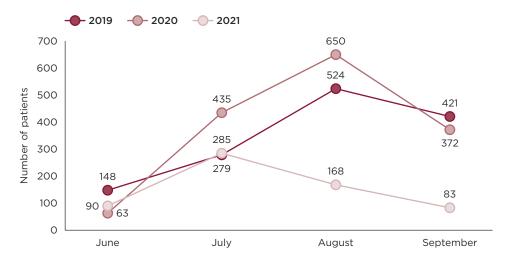
Heat stress

There has been media coverage of fatalities among CMWs potentially linked to heat stress in Qatar.⁹¹ CMWs often perform the majority of their work outside in high-heat environments, leading to an elevated risk of heat-related illness, particularly in the summer months. Clinical evidence points to the importance and effectiveness of preventative measures, early detection and rapid management of heat-stroke to prevent fatal consequences.⁹²

A much-cited study of fatalities in Nepali CMWs in Qatar, over a nine-year period, showed that cardiovascular events were the highest cause of death in those aged 25-35 years, with the numbers doubling in the hotter months, attributable to heat stress.⁹³ This effect was less pronounced after 2015, which the authors attribute to construction site practices changing due to international coverage. Yet it is also worth noting that a 2017 ILO study found the mortality rate among Nepali migrant workers is lower than for those who stay in Nepal. The notion that migrant workers are much healthier than the rest of the population could be questioned – given the limited pre-departure testing and the conditions that may arise over time – as mentioned above. However, there is a need to consider the fact that the healthcare system in Nepal should not be compared with that of richer countries of destination.⁹⁴

More recent studies from the ILO have shown no increase in cardiovascular deaths among non-Qatari males in the hotter months, suggesting limited evidence of heat stress-related fatalities.⁹⁵ This improvement may be attributed to more comprehensive enforcement of Qatar's labor laws with regard to working outside in the heat. The findings of a heat stress study conducted in 2019 by the ILO and Qatar's MOL, in collaboration with the SC, also led to stringent amendments in legislation, which came into force in May 2021. The law prohibits work in outdoor spaces between 10am and 3.30pm from 1 June to 15 September. It also stipulates that all work must stop if the Wet Bulb Globe Temperature (the measure of heat stress in direct sunlight) rises beyond 32.1°C in a particular workplace, regardless of time and date.⁹⁶ The MOL has prioritized monitoring and enforcing these regulations, which has resulted in improvements in working practices. This improvement is also supported by the sharp decline in the number of CMW patient visits for heat stroke from 2019 to 2021 (see Figure 9).

Figure 9. Number of craft and manual worker (CMW) patients with heat-related disorders at Qatar Red Crescent Society clinics, 2019–2021



Source: ILO (2021).97

CASE STUDY 5. SUPREME COMMITTEE FOR DELIVERY & LEGACY (SC) HEAT STRESS MITIGATION PLAN

All SC sites are mandated to operate under a comprehensive heat stress mitigation plan that includes: provision of cool and shaded areas; cold water stations; medical screenings; and care plans for workers. Workers are also empowered to self-monitor and pace their workload, according to weather conditions.

As part of its wider heat mitigation strategies, the SC collaborated with Techniche and Hamad Bin Khalifa University (HBKU) in Qatar to develop a bespoke cooling suit, 'StayQool', designed to replace outdated construction coveralls. StayQool can reduce thermal skin temperature by up to 8°C, helping workers to stay cool and comfortable during the summer months. HBKU is also developing working prototypes of the StayQool sensors, which will eventually be integrated into the suits to help detect heat strokes. This is the first time this type of cooling workwear has been locally designed and mass deployed in the construction industry. More than 50,000 StayQool suits have been distributed to SC workers.

In 2019, the SC collaborated in a major heat stress study commissioned by the International Labour Organization and Qatar's Ministry of Labour. As part of the study, heat stress experts, FameLab Qatar, examined one of the FIFA World Cup Qatar 2022[™] sites and found that workers were at low risk of occupational heat strain due to the extensive heat-stress mitigation strategies in place.⁹⁸

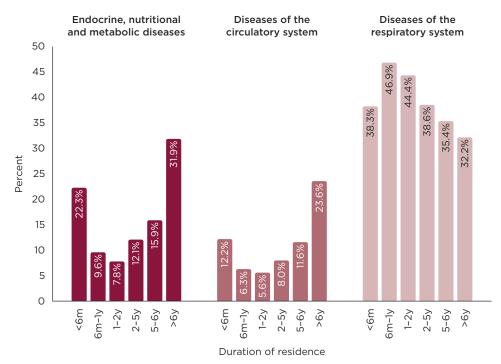
Source: SC.99

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Non-communicable diseases (NCDs)

Along with occupational injuries and heat stress, NCDs are an additional potentially life-threatening health issue faced by CMWs. NCDs are an important independent risk factor that, exacerbated by the weather, can lead to increased susceptibility to workplace injuries, including cognitive impairment and sudden cardiac deaths.¹⁰⁰ A large retrospective study of the electronic medical records for more than 58,000 CMWs showed interesting trends in the presence of NCDs, based on the length of residence in Qatar. The study divided the population into a number of groups, from those who had just arrived (less than six months' residence) to those who had lived in Qatar for more than six years, and compared their rates of NCDs, as shown in Figure 10.

Figure 10. Proportion of visits to clinics based on the diagnosis of disease according to duration of residence



Source: Al-Hatimy, et al. (2022).¹⁰¹

Diabetes, dyslipidemia and hypertension were higher in those who had just arrived (less than six months' group), compared to those who had lived there for between six months and six years. This suggests that these conditions were acquired in their country of origin, and that CMWs may have benefited from healthcare treatment during their time in Qatar. However, these rates increase again in the more-than-six-year group, potentially due to the increased age of this population. Conversely, acute respiratory infections, as well as dermatitis and eczema, all increased along with duration of residence in the country. This is perhaps a consequence of shared living/working facilities. Notably, only CMW patients with diabetes and hypertension, chronic illnesses that they had developed prior to arrival in Qatar, visited the clinic multiple times, with a need for repeat prescriptions for medication for these NCDs.

The association between type 2 diabetes, hypertension and sudden cardiac deaths has been well documented.¹⁰² The high prevalence of NCDs in younger CMWs in Qatar may help to explain the greater risk of cardiac diseases and deaths observed in this cohort. This also points to the importance of routine, expanded monitoring for NCDs, and early treatment of these conditions among this population.

General illnesses requiring inpatient care

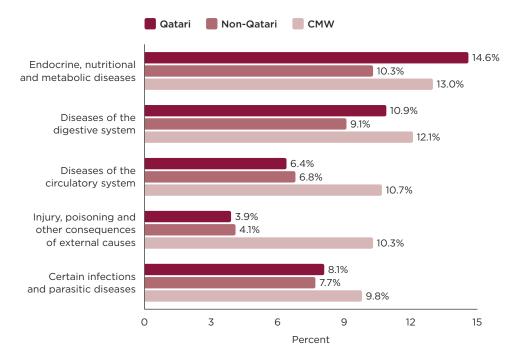


Figure 11. Admissions at Hamad Medical Corporation between 2018 and 2021 by ICD-10-AM chapter

Source: HMC Admissions Department (2022).¹⁰³

In addition to occupation-specific illnesses, CMWs also contend with the health challenges faced by the general population. Based on a review of the general inpatient admissions of CMWs to tertiary care facilities from 2018 to 2021, the highest inpatient admissions rates were observed for infections, injuries, poisoning, parasitic diseases and digestive system disorders (see Figure 11).¹⁰⁴ Injury and poisoning accounted for 10 percent of all CMW admissions, compared to just 4 percent among the other population groups..

As seen in the primary care setting, there were also high admission rates for diseases of the circulatory system (hypertension) and endocrine, nutritional and metabolic diseases (diabetes and dyslipidemia). These required continuous follow-up and treatment. A small but significant proportion of CMWs also attended with neoplasms. Compared to the other populations, CMWs also had a higher proportion of their outpatient visits for urology, infectious disease, trauma surgery and cardiology. CMWs also had a much higher non-urgent attendance rate (31 percent) to the hospital, compared to the rest of the population (15 percent), indicating that CMWs may be seeking care at the hospital that could be provided in the primary care setting.

Despite the younger age of CMWs, their need for tertiary inpatient care was significant, often associated with early on-set chronic conditions, such as diabetes and hypertension.

Mental health and wellbeing

In addition to the medical determinants of health, social factors are often as important in influencing mental health and wellbeing. Financial, familial, living, and working conditions related to being a temporary labor migrant all affect the wellbeing of this population. There have been very few studies on this, especially on workers in the GCC.

An initiative of note is Qatar University's Social & Economic Survey Research Institute's annual index of migrant worker conditions specific to Qatar. The Institute's work also included several areas of concern to migrants globally: honoring contracts; salary and debt levels; working conditions; human rights; healthcare; and living conditions. Their 2018 survey found that almost one-third of workers had a low overall awareness of their legal rights (30 percent did not fully understand the information in their contracts, and 31 percent were not well informed about their rights as a worker), indicating continued room for improvement.¹⁰⁵ Similarly, all workers in Qatar are entitled to medical care, but only 69 percent of CMWs had a medical insurance card, while the rest reported having faced difficulties receiving medical care.¹⁰⁶ Depression and anxiety, mainly stemming from issues related to contractual disputes, were higher in CMWs than in the general Qatari population.¹⁰⁷

Many CMWs appear to suffer from significant mental health issues.¹⁰⁸ For example in the first two months of 2019, 35 percent and 36 percent of patients admitted to HMC's inpatient psychiatry unit were CMWs. Of these, nearly one in six were suicidal, showing the extent of their mental distress.¹⁰⁹ This data reinforces the many stressors that contribute to mental ill health in this population, and the importance of providing mental health services.

CASE STUDY 6. SUPREME COMMITTEE FOR DELIVERY & LEGACY'S (SC'S) MENTAL HEALTHCARE PATHWAY

In 2019, the SC collaborated with the MOPH and HMC to develop a mental healthcare pathway for its workers to eliminate barriers in seeking mental health support. Core elements of the initiative are: training and upskilling of project clinicians; worker screening and referrals; psychiatric services and support at a dedicated mental health clinic for SC workers; and mental health awareness outreach to workers and selected ancillary support professionals. More than 8,010 workers have been screened to date.

To further support workers' wellbeing, the SC also partnered with the Social & Economic Survey Research Institute to conduct an annual independent workers' survey. The survey provides workers with a platform to share their feedback on key matters impacting their lives in Qatar, and on SC projects. Three cycles of the survey have been conducted, and findings indicate a high level of satisfaction among workers from their experience of working on SC projects.

Source: SC.¹¹⁰

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CASE STUDY 7. COVID-19 AND MENTAL HEALTH SUPPORT

For many CWMs, the stigma around mental illness creates a barrier to accessing support, and this adds to the burden of unmet needs in the CWM population. This was made worse by the COVID-19 pandemic.¹¹¹

To address these needs, new services and initiatives were introduced in Qatar, including: access to the National Mental Health Helpline; targeted screening of CMWs; provision of treatment for common mental illnesses; and dedicated, specialist clinics within HMC facilities. In 2018, the Hazm Mebaireek General Hospital launched a series of integrated specialist mental health services. CMWs are using these services at increasing rates each year (see Figure 12).¹¹² The location within a general hospital, as opposed to psychiatric facilities, may increase the likelihood of CMWs accessing these services.

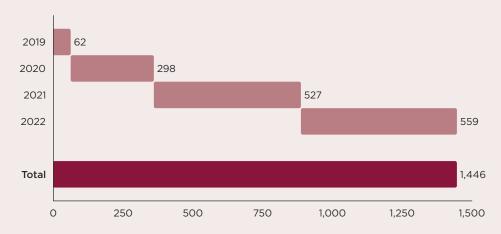


Figure 12. Patients treated by specialist mental health services

Source: HMC Mental Health Service, Cerner data.¹¹³

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Costs of treatment

In Qatar, all forms of acute and urgent care are provided free of charge, with costs borne entirely by the Government. Even the most severely injured are fully treated, regardless of nationality.

WRIs cause significant costs to Qatar: from 2011 to 2017, nearly \$125 million (around QR455 million) was spent on direct healthcare costs to treat WRIs, almost double the combined annual direct medical costs for breast and colon cancer in 2019.¹¹⁴ Costs associated with falls accounted for nearly 44 percent of the overall cost – \$7.8 million per year, with a mean cost of \$15,735 per patient.¹¹⁵ An earlier study reported that the total cost associated with work-related falls was \$4.4 million per year in Qatar, with a mean cost of \$31,271 per patient per year in 2007/2008.¹¹⁶

In addition to the costs of treating WRIs, significant costs were associated with the treatments for NCDs in CMWs (see Figure 13).

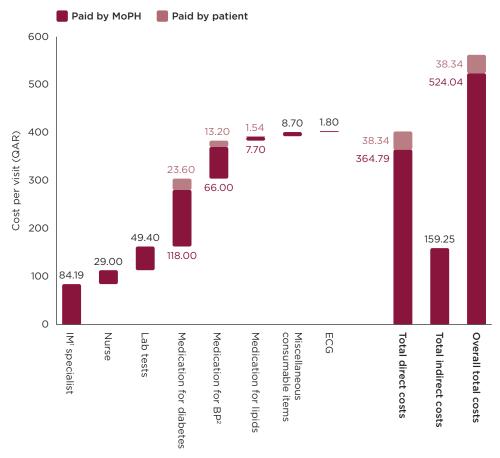


Figure 13. Cost of management and treatment of non-communicable diseases per patient visit (QAR)*

* Patient visits approximately once every two months. Sources: QRCS (2022)¹¹⁷; MOL (2022).¹¹⁸ Average monthly earnings of CMWs in Qatar are estimated at QR1,150, with earnings per day of QR37.81.¹¹⁹ Therefore, the cost of medication incurred by patients with all three NCDs is QR38.34, or just over one day's pay. Diabetes on its own is 0.62 of a day's income, hypertension 0.35 of a day's income and dyslipidemia 0.04 of a day's income.

Conclusion

Over the past 10 years, Qatar has significantly improved the health and wellbeing of its CMW population. However, there is still much work to be done. Building on the recommendations outlined in the *Improving Single Male Laborers' Health in Qatar*¹²⁰ and the successful initiatives spearheaded by the SC, policymakers, employers and healthcare providers should continue to focus on the following areas to improve the health and wellbeing of Qatar's CMWs:

Strengthening national policies, regulations and enforcement

- Establish a national patient-centered strategy for CMWs, which guarantees equal healthcare quality and access compared to the rest of the population. This is particularly important in light of the new legislation on private health insurance and the potential impact on quality and access. Implementation of this strategy should be closely monitored and overseen by a newly established, dedicated department responsible for the health of CMWs.
- Increase enforcement of employer obligations and Qatar Labour Law requirements to ensure that workers benefit fully from Qatar's labor laws, National Occupational Health and Safety Policy and employers' obligations. For instance, access to health cards must be made mandatory, and employers must be held responsible for unreasonable delays in issuing health cards for workers. Targeted inspection campaigns can also target occupational health and safety priorities, for example, on heat stress, falls from heights, and the need to notify the authorities of accidents. Organizations delivering large-scale projects must also establish contractually binding health and safety standards or requirements for their contractors.
- Mandate appropriate protective cooling workwear to ensure a baseline standard of clothing is followed for all contractors who deploy workers in direct sunlight and hot environments. This standard should incorporate workwear with cooling properties, such as those developed by the SC.

Enhancing healthcare services and support

- Implement improved, comprehensive healthcare screening for new workers at Qatar Visa Centers, building on the SC's comprehensive health screening. Expanding the current screening process for new workers to include the presence of/susceptibility to NCDs will ensure that workers with underlying conditions receive prompt treatment and are not exposed to potentially harmful conditions. Looking further to the future, many countries, including Qatar, are moving toward personalized medicine, or precision medicine, as a model for tailoring treatment for citizens for optimal health outcomes, based on group characteristics, including detailed clinical data, genomics, proteomics and metabolomics. While such an approach has not been applied to migrant workers, a large-scale project in Qatar is pioneering such an approach for CMWs and could be worthy of expansion.
- Establish a centralized electronic medical record (EMR) system for CMWs to ensure better access to patients' medical history for clinics and hospitals. Effective use can provide more accurate information, leading to more effective treatment. The SC's EMR could be used as a model or potentially expanded for this purpose.
- Invest in specialized patient pathways for CMWs to eliminate barriers to access. Priority care pathways should include those for cardiac care and mental health.

Increasing engagement with CMWs

- Expand and continue occupational health and safety education campaigns, to prioritize:
 - initiatives that raise awareness about and destigmatize mental health challenges among workers and employers.
 - worker privacy to ensure that workers feel safe to pursue diagnosis and treatment without fear of loss of employment.
 - education about free national health initiatives, such as the mental health helpline, to address perceptions about the cost of care.
 - implementing health awareness campaigns to promote safety and wellbeing among workers, particularly targeting occupational injuries, as well as general health literacy.
 - empowering workers to report violations.

Bolstering data collection and research

- Create a dedicated country-level CMW health unit to monitor access to healthcare and health outcomes. This unit should establish a national CMW health database to track outcomes, monitor the social determinants of health and wellbeing, and produce an annual report on CMWs' health.
- Enhance data collection and analysis to inform policies to support healthcare goals. This should include harmonization of data across different institutions, and engagement with workers and employers. Solutions should also address the high number of death certificates with the cause of death marked 'cardiac arrest' or 'natural causes' and improve investigations into causes of death.
- Set up a regional (GCC) collaborative hub to exchange data and knowledge, and put in place plans for the improvement of migrant workers' health in the region.

While these recommendations are far from a comprehensive solution, we hope they provide helpful actions for Qatar to continue to improve the health and wellbeing of its CMWs.

SECTION 3. CONCLUSION AND RECOMMENDATIONS

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Governments and employers have a duty to ensure the health and wellbeing of the international migrant workforce. While context differs across countries and regions – and targeted policy responses are required at the local and national level – there are a number of steps that governments, policymakers, researchers and industry can collectively take to address the health issues facing migrant workers. We urge stakeholders to take swift action to ensure that we protect the health and wellbeing of this essential workforce.

• Commit to a global set of minimum standards and health policies for international migrant workers.

An intergovernmental, globally oriented 'health framework' is needed to provide guidance and infrastructure in major migration corridors. This framework should bind recruiters, sending states, employers and receiving states to health commitments for temporary labor migrants. Receiving governments should codify this framework into country law and ensure that appropriate resources are in place to implement and enforce this legislation.

• Take action to further empower and support workers to take charge of their health and wellbeing.

This paper has outlined many challenges relating to migrant worker awareness of rights to safe working conditions and healthcare services. Yet we must continue to seek innovative ways to inform and empower the workforce to understand their rights and entitlements, feel supported to speak up when their needs are unmet, and access affordable and appropriate healthcare services. Policymakers and researchers must make a concerted effort to engage more directly with low-wage workers to understand their needs and adapt programs and materials to address these needs in a user-centered way.

 Improve data collection and knowledge sharing across countries and industries through the creation of an international collaborative hub to encourage adoption of best practices.

We echo calls from other organizations to build on existing research on the health and wellbeing of migrant workers. One way to tackle this issue is to set up an international collaborative hub to compile and share data on this population. Such an entity – which should have representation and funding from key stakeholders across governments, non-governmental organizations, industry and academia – could work to define common metrics and methods to measure and compare performance across countries. Research must also expand to cover migrant workers' health before, during and after migration in order to identify the most effective stages for intervention and the most effective interventions and programs. Importantly, this research must include the voices of migrant workers themselves, ensuring that their views are incorporated in the design and implementation of interventions aimed at health improvement.

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REFERENCES

0-

- 1. International Labor Organization. *Global estimates on international migrant workers: Results and methodology Third edition*. Geneva: International Labor Organization; 2021.
- 2. International Labor Organization. *Global estimates on international migrant workers: Results and methodology Third edition*. Geneva: International Labor Organization; 2021.
- Grover A. Report of the Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health. Human Rights Council, Twenty-third session, agenda item 3. New York: United Nations General Assembly; 2013. Available at: https://www.ohchr.org/sites/default/files/ Documents/HRBodies/HRCouncil/RegularSession/Session23/A_HRC_23_41_ ENG.pdf [Accessed 1 August 2022].
- **4.** The Migration Health and Development Research Initiative. Available at: https://mhadri.org [Accessed 1 August 2022].
- International Labor Organization. Global estimates on international migrant workers: Results and methodology – Third edition. Geneva: International Labor Organization; 2021.
- 6. Orrenius PM, Zavodny M. Do immigrants work in riskier jobs? *Demography*. 2009; 46(3), 535-551.
- 7. Cremers J. Construction labour, mobility and non-standard employment. Brussels: The European Trade Union Institute. 2020. Available at: https://www.etui.org/ topics/health-safety-working-conditions/hesamag/construction-workersat-the-mercy-of-social-dumping/construction-labour-mobility-and-nonstandard-employment [Accessed 9 June 2022].
- World Health Organization. Protecting workers' health. 2017. Available at: https://www.who.int/news-room/fact-sheets/detail/protecting-workers'-health [Accessed 9 June 2022].
- **9.** Buckley M et al. *Migrant work and employment in the construction sector.* Geneva: International Labour Office; 2016.
- Soe KT et al. Prevalence and risk factors of musculoskeletal disorders among Myanmar migrant workers in Thai seafood industries. *International Journal of Occupational Safety and Ergonomics*. 2015; 21(4), 539–546.
- **11.** Tomita S et al. Prevalence and risk factors of low back pain among Thai and Myanmar migrant seafood processing factory workers in Samut Sakorn Province, Thailand. *Industrial Health*. 2010; 48(3), 283–291.
- 12. Joshi S et al. Health problems of Nepalese migrants working in three Gulf countries. *BMC International Health and Human Rights*. 2011; 11, 3.
- Hargreaves S et al. Occupational health outcomes among international migrant workers: A systematic review and meta-analysis. *The Lancet Global Health*. 2019; 7(7), e872-e882.

- 14. Shields-Zeeman L, Smit F. The impact of income on mental health. *The Lancet Public Health*. 2022; 7(6), 486-487.
- Onarheim KH. Health and social needs of migrant construction workers for big sporting events. *BMJ Clinical Research*. 2021; 374, n1591.
- Al-Maskari F et al. Prevalence of depression and suicidal behaviors among male migrant workers in United Arab Emirates. *Journal of Immigrant and Minority Health.* 2011; 13(6), 1027–1032.
- Alhamidi SA, Alyousef SM. Health literacy of migrant workers in Saudi Arabia: A cross-sectional survey. World Family Medicine. 2022; 20(7), 67–74.
- **18.** Buckley M et al. *Migrant work and employment in the construction sector.* Geneva: International Labour Office; 2016.
- 19. Trummer U et al. Economics in migrant health: Migrant-sensitive service improvement as a driver for cost savings in health care? In Galea S et al (eds) *Migration and Health*. Chicago: University of Chicago Press; forthcoming.
- **20.** Bener A. Health status and working condition of migrant workers: Major public health problems. *International Journal of Preventive Medicine*. 2017; 8, 68.
- **21.** Wickramage K et al. Migration and health: A global public health research priority. *BMC Public Health.* 2018; 987, 18.
- 22. Wickramage K et al. Migration and health: A global public health research priority. BMC Public Health. 2018; 987, 18.
- 23. Office of the High Commissioner for Human Rights. Global compact for safe, orderly and regular migration. Available at: https://www.ohchr.org/en/migration/global-compact-safe-orderly-and-regular-migration-gcm [Accessed 31 July 2022].
- **24.** African Union. African Union launches a new program on migration and health. 2020. Available at: https://au.int/en/pressreleases/20200723/african-union-launches-new-program-migration-and-health [Accessed 31 July 2022].
- **25.** African Union. *Migration and health: Addressing current health challenges of migrants and refugees in Africa From policy to practice.* Addis Ababa: Division of Labour, Employment and Migration; 2021.
- 26. African Union. *Migration policy framework for Africa and plan of action (2018-2030)*. Addis Ababa: African Union Commission; 2018. Available at: https://au.int/sites/default/files/documents/35956-doc-au-mpfa-executive-summary-eng.pdf [Accessed 22 August 2022].
- **27.** Trummer U et al. *Migrants and healthcare: Social and economic approaches.* Singapore: Asia-Europe Foundation; 2014.
- **28.** Trummer U et al. *Migrants and healthcare: Social and economic approaches.* Singapore: Asia-Europe Foundation; 2014.
- **29.** Trummer U, Krajic K. *Migrant friendly hospitals: Organisations learn sensitivity for differences*. Malmö: Malmö University; 2007.

- 30. European Commission Directorate General for Health and Consumers. The Amsterdam Declaration Towards Migrant-Friendly Hospitals in an ethnoculturally diverse Europe. Brussels: European Commission Directorate General for Health and Consumers, 2005. Available at: https://ec.europa.eu/health/ph_ projects/2002/promotion/fp_promotion_2002_annex7_14_en.pdf [Accessed 22 August 2022].
- **31.** Ministry of Manpower. New taskforce to enhance mental health care support for migrant workers. Available at: https://www.mom.gov.sg/newsroom/ press-releases/2020/1106-new-taskforce-to-enhance-mental-health-care-support-for-migrant-workers [Accessed 31 July 2022].
- **32.** Awang N. Stressbusters: Meet the migrant workers trained to spot signs of distress in their community. Available at: https://www.todayonline.com/singapore/stressbusters-meet-migrant-workers-trained-spot-signs-distress-their-community-1824601 [Accessed 31 July 2022].
- 33. Regional Office for East and Horn of Africa. Regional ministerial forum on migration for East and Horn of Africa. Available at: https://eastandhornofafrica. iom.int/regional-ministerial-forum-migration-east-and-horn-africa-rmfm [Accessed 31 July 2022].
- 34. International Organization for Migration. Communique: Regional Ministerial Forum on Harmonizing Labour Migration Policies in East and Horn of Africa: A united approach on safe, regular and humane labour migration. Available at: https://www.iom.int/sites/g/files/tmzbdl486/files/2021-09/ENG SIGNED COMMUNIQUE HLMM JAN 21 2020.pdf [Accessed 22 August 2022].
- **35.** Onarheim KH. Health and social needs of migrant construction workers for big sporting events. *BMJ Clinical Research*. 2021; 374, n1591.
- **36.** Central Intelligence Agency. The World Factbook. Middle East: Qatar; 2022. Available at: https://www.cia.gov/the-world-factbook/countries/qatar [Accessed 22 August 2022].
- Planning and Statistics Authority. Population and social statistics. State of Qatar. 2019. Available at: https://www.psa.gov.qa/en/statistics/Statistical%20Releases/ Population/Population/2019/Population_social_1_2019_AE.pdf [Accessed 31 July 2022].
- Planning and Statistics Authority. Labor force sample survey 2020. State of Qatar. 2020. Available at: https://www.psa.gov.qa/en/statistics/Statistical%20 Releases/Social/LaborForce/2020/statistical_analysis_labor_force_2020_EN.pdf [Accessed 31 July 2022].
- Planning and Statistics Authority. Labor force sample survey 2020. State of Qatar. 2020. Available at: https://www.psa.gov.qa/en/statistics/Statistical%20 Releases/Social/LaborForce/2020/statistical_analysis_labor_force_2020_EN.pdf [Accessed 31 July 2022].
- 40. De Bel-Air F. Demography, migration, and labour market in Qatar. 2018. Available at: https://www.researchgate.net/publication/323129801_Demography_ Migration_and_Labour_Market_in_Qatar-_UPDATED_June_2017 [Accessed 31 July 2022].

- **41.** World Health Organization. Country Cooperation Strategy at a Glance: Qatar. 2018. Available at: https://apps.who.int/iris/rest/bitstreams/1139345/retrieve [Accessed 31 July 2022].
- **42.** Goodman A. The development of the Qatar healthcare system: A review of the literature. *International Journal of Clinical Medicine*. 2015; 6(3), 177–185.
- **43.** Qatar Ministry of Public Health. 2018. National health strategy: 2018-2022. Available at: https://www.moph.gov.qa/english/strategies/National-Health-Strategy-2018-2022/Pages/default.aspx [Accessed 31 July 2022].
- **44.** Qatar Ministry of Public Health. 2018. National health strategy: 2018-2022. Available at: https://www.moph.gov.qa/english/strategies/National-Health-Strategy-2018-2022/Pages/default.aspx [Accessed 31 July 2022].
- **45.** Qatar Ministry of Public Health. 2011. National health strategy: 2011–2016. Available at: https://extranet.who.int/nutrition/gina/sites/default/filesstore/QAT%202011%20 National%20Health%20Strategy.pdf [Accessed 31 July 2022].
- **46.** Qatar Visa Center. Frequently asked questions. Available at: https://www.qatar visacenter.com/cnt/faq [Accessed 31 July 2022].
- **47.** Higham E et al. New mandatory health insurance system introduced in Qatar. Clyde & Co. 2021. Available at: https://www.clydeco.com/en/insights/2021/12/ new-mandatory-health-insurance-system-introduced-i [Accessed 31 July 2022].
- **48.** Personal communication from QRSA, August 2022.
- International Labour Organization. Qatar's ministerial decision on heat stress. 2021. Available at: https://www.ilo.org/beirut/countries/qatar/labinsp-osh/WCMS_79 4551/lang--en/index.htm [Accessed 15 August 2022].
- **50.** Personal correspondence from the Supreme Committee for Delivery & Legacy, August 2022.
- **51.** Qatar Red Crescent Society. Workers health centers. 2022. Available at: https://www.qrcs.org.qa/en/pages/healthcenters.aspx [Accessed 1 August 2022].
- Qatar Red Crescent Society. Workers health centers. 2022. Available at: https://www.qrcs.org.qa/en/pages/healthcenters.aspx [Accessed 1 August 2022].
- **53.** Latoo J et al. Development of mental health services for lower-skilled migrant workers in Qatar. *Asian Journal of Psychiatry*. 2021; 62, 102709.
- 54. Al-Harahsheh S et al. Improving single male laborers' health in Qatar. Qatar: Georgetown University; 2019. Available at: https://ssrn.com/abstract=3486167 [Accessed 15 August 2022].
- 55. Al-Harahsheh S et al. Improving single male laborers' health in Qatar. Qatar: Georgetown University; 2019. Available at: https://ssrn.com/abstract=3486167 [Accessed 15 August 2022].
- **56.** Personal correspondence from the Supreme Committee for Delivery & Legacy, August 2022.

- **57.** Bener A et al. Trends and characteristics of head and neck injury from falls: A hospital based study, Qatar. *Sultan Qaboos University Medical Journal.* 2011; 11(2), 244–251.
- **58.** Tuma MA et al. Epidemiology of workplace-related fall from height and cost of trauma care in Qatar. *International Journal of Critical Illness and Injury Science.* 2013; 3(1), 3–7.
- **59.** Al-Thani H et al. Workplace-related traumatic injuries: Insights from a rapidly developing Middle Eastern country. *Journal of Environmental and Public Health.* 2014; 2014, 430832.
- **60.** Mekkodathil A et al. Epidemiological and clinical characteristics of fall-related injuries: A retrospective study. *BMC Public Health*. 2020; 20(1), 1186.
- **61.** Consunji RJ et al. Occupational safety and work-related injury control efforts in Qatar: Lessons learned from a rapidly developing economy. *International Journal of Environmental Research and Public Health.* 2020; 17(18), 6906.
- **62.** Consunji RJ et al. Direct healthcare costs of moderate and severe work-related injuries: Estimates from the National Trauma Center of Qatar. *International Journal of Environmental Research and Public Health.* 2022; 19(3), 1609.
- **63.** Pradhan B et al. Heat stress impacts on cardiac mortality in Nepali migrant workers in Qatar. *Cardiology*. 2019; 143(1), 37-48.
- **64.** Al-Hatimy F et al. A retrospective study of non-communicable diseases amongst blue-collar migrant workers in Qatar. *International Journal of Environmental Research and Public Health.* 2022; 19(4), 2266.
- **65.** Shah AD et al. Type 2 diabetes and incidence of cardiovascular diseases: A cohort study in 1.9 million people. *The Lancet Diabetes & Endocrinology*. 2015; 3(2), 105-113.
- **66.** Ewers MC et al. Migrant worker wellbeing and its determinants: The case of Qatar. *Social Indicators Research*. 2020; 152(2), 137–163.
- **67.** Prabhakaran D et al. The changing patterns of cardiovascular diseases and their risk factors in the states of India: The Global Burden of Disease Study 1990–2016. *The Lancet Global Health.* 2018; 6(12), 1339–1351.
- **68.** Amnesty International. *The dark side of migration: Spotlight on Qatar's construction sector ahead of the World Cup.* London: Amnesty International; 2013.
- **69.** International Trade Union Confederation. *The case against Qatar, host of FIFA 2022 World Cup.* Brussels: International Trade Union Confederation; 2014.
- **70.** Devi S. Concerns over mistreatment of migrant workers in Qatar. *The Lancet.* 2014; 383(9930), 1709.
- **71.** Bener A et al. Trends and characteristics of injuries in the state of Qatar: hospital-based study. *International Journal of Injury Control and Safety Promotion*. 2012; 19(4), 368372.
- Al-Thani H et al. Epidemiology of occupational injuries by nationality in Qatar: Evidence for focused occupational safety programmes. *Injury.* 2015; 46(9), 1806–1813.

- **73.** Mehmood A et al. Work related injuries in Qatar: A framework for prevention and control. *Journal of Occupational Medicine and Toxicology*. 2018; 13(1), 29.
- **74.** Consunji RJ et al. Occupational safety and work-related injury control efforts in Qatar: Lessons learned from a rapidly developing economy. *International Journal of Environmental Research and Public Health.* 2020; 17(18), 6906.
- **75.** Consunji RJ et al. Direct healthcare costs of moderate and severe work-related injuries: Estimates from the National Trauma Center of Qatar. *International Journal of Environmental Research and Public Health.* 2022; 19(3), 1609.
- 76. Consunji RJ et al. Epidemiologic and temporal trends of work-related injuries in expatriate workers in a high-income rapidly developing country: Evidence for preventive programs. In Bernatik A et al. (eds) *Prevention of Accidents at Work*. Prague: Taylor and Francis Group; 2017. pp. 55-59.
- **77.** Bener A. Health status and working condition of migrant workers: Major public health problems. *International Journal of Preventive Medicine*. 2017; 8, 68.
- **78.** Tuma MA et al. Epidemiology of workplace-related fall from height and cost of trauma care in Qatar. *International Journal of Critical Illness and Injury Science*. 2013; 3(1), 3–7.
- **79.** Consunji RJ et al. Epidemiologic and temporal trends of work-related injuries in expatriate workers in a high-income rapidly developing country: Evidence for preventive programs. In Bernatik A et al (eds) *Prevention of Accidents at Work*. Prague: Taylor and Francis Group; 2017.
- 80. Qatar Voluntary National Review 2021. Report on the implementation of the 2030 Agenda for Sustainable Development. Authority on Planning and Statistics. 2021. Available at: https://sustainabledevelopment.un.org/ content/documents/280362021_VNR_Report_Qatar_English.pdf [Accessed 15 August 2022].
- International Labour Organization. One is too many: The collection and analysis of data on occupational injuries in Qatar. Geneva: International Labour Organization; 2021. Available at: https://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/---ilo-qatar/documents/publication/wcms_828395.pdf [Accessed 15 August 2022].
- International Labour Organization. One is too many: The collection and analysis of data on occupational injuries in Qatar. Geneva: International Labour Organization; 2021. Available at: https://www.ilo.org/wcmsp5/groups/public/---arabstates/--ro-beirut/---ilo-qatar/documents/publication/wcms_828395.pdf [Accessed 15 August 2022].
- 83. International Labour Organization. One is too many: The collection and analysis of data on occupational injuries in Qatar. Geneva: International Labour Organization; 2021. Available at: https://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/---ilo-qatar/documents/publication/wcms_828395.pdf [Accessed 15 August 2022].
- Central Intelligence Agency. The World Factbook. Langley: Central Intelligence Agency; 2022. Available at: https://www.cia.gov/the-world-factbook/countries/ qatar [Accessed 22 August 2022].

- 85. Cremers J. Construction labour, mobility and non-standard employment. Brussels: European Trade Union Institute. 2016. Available at: https://www.etui.org/ topics/health-safety-working-conditions/hesamag/construction-workersat-the-mercy-of-social-dumping/construction-labour-mobility-and-nonstandard-employment [Accessed 9 June 2022].
- **86.** Health and Safety Executive. Health and safety at work: Summary statistics for Great Britain 2021. London: Health and Safety Executive. 2021. Available at: https://www.hse.gov.uk/statistics/overall/hssh2021.pdf [Accessed 9 June 2022].
- 87. United States Bureau of Labor Statistics. National Census of Fatal Occupational Injuries in 2020. Washington, DC: United States Bureau of Labor Statistics. 2020. Available at: https://www.bls.gov/news.release/pdf/cfoi.pdf [Accessed 9 June 2022].
- 88. Mirkowski J. The world's most dangerous countries for workers. 2021. Available at: https://www.arinite.co.uk/the-worlds-most-dangerous-countries-for-workers [Accessed 9 June 2022].
- 89. International Labour Organization. One is too many: The collection and analysis of data on occupational injuries in Qatar. Geneva: International Labour Organization; 2021. Available at: https://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/---ilo-qatar/documents/publication/wcms_828395.pdf [Accessed 15 August 2022].
- **90.** Consunji RJ et al. Direct healthcare costs of moderate and severe work-related injuries: Estimates from the National Trauma Center of Qatar. *International Journal of Environmental Research and Public Health.* 2022; 19(3), 1609.
- **91.** Pradhan B et al. Heat stress impacts on cardiac mortality in Nepali migrant workers in Qatar. *Cardiology*. 2019; 143(1), 37-48.
- **92.** Acharya P et al. Assessing heat stress and health among construction workers in a changing climate: A review. *International Journal of Environmental Research and Public Health.* 2018; 15(2), 247.
- **93.** Pradhan B et al. Heat stress impacts on cardiac mortality in Nepali migrant workers in Qatar. *Cardiology*. 2019; 143(1), 37-48.
- 94. International Labour Organization. When the safety of Nepali migrant workers fails: A review of data on the numbers and causes of the death of Nepali migrant workers. Geneva: International Labour Organization; 2016. Available at: https://www.ilo.org/kathmandu/whatwedo/publications/WCMS_493777/lang--en/index.htm [Accessed 15 August 2022].
- 95. International Labour Organization. One is too many: The collection and analysis of data on occupational injuries in Qatar. Geneva: International Labour Organization; 2021. Available at: https://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/---ilo-qatar/documents/publication/wcms_828395.pdf [Accessed 15 August 2022].
- **96.** International Labour Organization. New legislation in Qatar provides greater protection to workers from heat stress. 2021. Available at: https://www.ilo.org/beirut/countries/qatar/WCMS_794475/lang--en/index.htm [Accessed 15 August 2022].

- 97. International Labour Organization. One is too many: The collection and analysis of data on occupational injuries in Qatar. Geneva: International Labour Organization; 2021. Available at: https://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/---ilo-qatar/documents/publication/wcms_828395.pdf [Accessed 15 August 2022].
- 98. International Labour Organization. Assessment of occupational heat strain and mitigation strategies in Qatar. Geneva: International Labour Organization; 2019. Available at: https://www.ilo.org/beirut/countries/qatar/WCMS_723545/ lang--en/index.htm [Accessed 15 August 2022].
- **99.** Personal correspondence from the Supreme Committee for Delivery & Legacy, August 2022.
- **100.** Haines A, Frumkin H. Global environmental change and noncommunicable disease risks. *Annual Review of Public Health.* 2019; 40(1), 261–282.
- 101. Al-Hatimy F et al. A retrospective study of non-communicable diseases amongst blue-collar migrant workers in Qatar. *International Journal of Environmental Research and Public Health.* 2022; 19(4), 2266.
- **102.** Shah AD et al. Type 2 diabetes and incidence of cardiovascular diseases: A cohort study in 1.9 million people. *The Lancet Diabetes & Endocrinology*. 2015; 3(2), 105–113.
- 103. Personal correspondence from HMC Admissions Department, August 2022.
- **104.** Personal correspondence from HMC Admissions Department, August 2022.
- **105.** Diop A et al. Welfare index of migrant workers in the Gulf: The case of Qatar. *International Migration.* 2019; 58(4).
- **106.** Ewers MC et al. Migrant worker wellbeing and its determinants: The case of Qatar. *Social Indicators Research*. 2020; 152(2), 137–163.
- 107. Khaled SM, Gray R. Depression in migrant workers and nationals of Qatar: An exploratory cross-cultural study. *International Journal of Social Psychiatry*. 2019; 65(5), 354–367.
- 108. Kronfol Z et al. Mental health issues among migrant workers in Gulf Cooperation Council countries: Literature review and Case illustrations. Asian Journal of Psychiatry. 2014; 10, 109–113.
- 109. Al-Harahsheh S et al. Improving single male laborers' health in Qatar. Washington, DC: Georgetown University; 2019. Available at: https://ssrn.com/ abstract=3486167 [Accessed 15 August 2022].
- **110.** Personal correspondence from the Supreme Committee for Delivery & Legacy, August 2022.
- 111. Babar Z. The COVID-19 Pandemic in the GCC: Underlying Vulnerabilities for Migrant Workers. 2020. Available from: https://cirs.qatar.georgetown.edu/ covid-19-pandemic-gcc-underlying-vulnerabilities-migrant-workers [Accessed 18 August 2022].
- **112.** Latoo J et al. Development of mental health services for lower-skilled migrant workers in Qatar. *Asian Journal of Psychiatry*. 2021; 62, 102709.

- **113.** Personal correspondence from the HMC Mental Health Service, 16 August 2022.
- **114.** Consunji RJ et al. Direct healthcare costs of moderate and severe work-related injuries: Estimates from the National Trauma Center of Qatar. *International Journal of Environmental Research and Public Health.* 2022; 19(3), 1609.
- **115.** Consunji RJ et al. Direct healthcare costs of moderate and severe work-related injuries: Estimates from the National Trauma Center of Qatar. *International Journal of Environmental Research and Public Health.* 2022; 19(3), 1609.
- Tuma MA et al. Epidemiology of workplace-related fall from height and cost of trauma care in Qatar. *International Journal of Critical Illness and Injury Science*. 2013; 3(1), 3–7.
- **117.** Personal correspondence from Qatar Red Crescent Society, August 2022.
- **118.** Personal correspondence from Ministry of Labour, August 2022.
- **119.** Personal correspondence from Ministry of Labour, August 2022.
- 120. Al-Harahsheh S et al. Improving single male laborers' health in Qatar. Washington, DC: Georgetown University; 2019. Available at: https://ssrn.com/ abstract=3486167 [Accessed 15 August 2022].

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