



ROLE OF COMMUNITY HEALTH WORKERS AND NURSES IN EMERGENCY RESPONSE AND RECOVERY

Ali Hamad Ali Alzaylaee^{1*}, Saleh Yahya Alzahrani², Mohammed Abdullah Alhumeri³, Hassan Haidar Salman Alsharif⁴, Saleh Saeed Bin Saud Alyami⁵, Abdulaziz Ali Mohammed Alshahrani⁶, Abdulrhman Abdullah Murayyi Alsawqae⁷, Abdullah Faye Abu Bakr Almakhalti⁸, Saeed Mohammed Alqahtani⁹, MOHAMMED AHMED MOHAMMED ALZUBAIDI¹⁰, Faisal houssein awod alenezi¹¹

Abstract:

Community health workers (CHWs) play a crucial role in emergency response and recovery efforts worldwide. This review article examines the significant contributions of CHWs in addressing public health emergencies, such as natural disasters, disease outbreaks, and humanitarian crises. CHWs serve as vital links between communities and formal healthcare systems, providing essential services, education, and support during emergencies. Their unique position allows them to reach vulnerable populations, promote health awareness, and facilitate access to care in times of crisis. By leveraging their local knowledge, cultural competence, and trusted relationships, CHWs help enhance disaster preparedness, response coordination, and long-term recovery efforts. This paper explores the diverse roles and responsibilities of CHWs in emergency settings, highlighting their impact on mitigating health disparities, improving health outcomes, and strengthening community resilience. Additionally, it discusses the challenges faced by CHWs, such as limited resources, training gaps, and burnout risks, and proposes strategies to enhance their effectiveness and sustainability in emergency response and recovery initiatives. Overall, this review underscores the invaluable contributions of CHWs in promoting community health and well-being amid emergencies, emphasizing the need for greater recognition, support, and integration of CHWs in emergency management policies and practices.

Keywords: Community Health Workers, Emergency Response, Recovery, Public Health, Disaster Preparedness, Vulnerable Populations

^{1*}Emergency medical specialist, Ministry of Health, King Abdulaziz Hospital, Jeddah, Saudi Arabia.

²Nursing Technician, Second Health Cluster, Jeddah, Saudi Arabia.

³Public health specialist, King Abdulaziz Airport, Jeddah, Saudi Arabia.

⁴Public health specialist, King Abdulaziz Airport in Jeddah, Saudi Arabia.

⁵Public Health specialist, Ministry of Health, Prince Abdulaziz bin Musa'ed Hospital, Arar, Saudi Arabia.

⁶Specialist Public Health, Almansak PHCC, Aseer, Abha, Saudi Arabia.

⁷Health Administration and Community Health, Sader wealh PHC, Abha, Saudi Arabia.

⁸Technician Public Health, Al Qahma General Hospital, Asir, Saudi Arabia.

⁹Health Administration and community health, King Abdulaziz Airport Health Center, Jeddah, Saudi Arabia.

¹⁰General Practice, Ministry of Health, King Fahad Hospital, Jeddah, Saudi Arabia.

¹¹Specialist Nursing, North Medical Tower, Arar, Saudi Arabia.

***Corresponding Author:** Ali Hamad Ali Alzaylaee

*Emergency medical specialist, Ministry of Health, King Abdulaziz Hospital, Jeddah, Saudi Arabia.

DOI: 10.53555/ecb/2022.11.11.230

Introduction:

Community Health Workers (CHWs) play a crucial role in emergency response situations by providing essential healthcare services to communities in need. These frontline healthcare workers are often the first point of contact for individuals during emergencies, and they work tirelessly to ensure that everyone has access to the care they need [1].

CHWs are trained professionals who work within their own communities to provide healthcare services and education. They are typically members of the communities they serve, which allows them to build trust and rapport with the individuals they work with. In emergency response situations, CHWs are responsible for assessing the needs of the community, providing basic medical care, and connecting individuals to the appropriate resources. They also play a crucial role in educating community members about emergency preparedness, disease prevention, and other health-related topics [2].

One of the key roles of CHWs in emergency response is to provide immediate medical care to individuals who are injured or ill. CHWs are trained to assess and treat common medical conditions, such as wounds, infections, and respiratory problems. They also provide first aid and basic life support services, such as CPR and wound care. In some cases, CHWs may also administer medications or provide referrals to higher levels of care, such as hospitals or clinics [3].

In addition to providing direct medical care, CHWs also play a vital role in connecting individuals to the resources they need during emergencies. This may include helping individuals access food, shelter, and transportation, as well as connecting them to social services and mental health support. CHWs are often the bridge between community members and the healthcare system, helping to ensure that everyone has access to the care they need during emergencies [4].

CHWs also play a crucial role in educating community members about emergency preparedness and disease prevention. They work to raise awareness about common health risks during emergencies, such as infectious diseases, injuries, and mental health issues. CHWs provide information about how to stay safe during emergencies, such as how to create a disaster preparedness kit, how to evacuate safely, and how to prevent the spread of illness. By educating community members about these important topics, CHWs help to empower individuals to take control of their own health and safety during emergencies [5].

Role of CHWs in Disaster Preparedness and Mitigation:

Disasters, whether natural or man-made, can have devastating effects on communities, causing loss of life, destruction of property, and disruption of essential services. In the face of such events, it is crucial for communities to be prepared and equipped to mitigate the impact of disasters and effectively respond to them. Community Health Workers (CHWs) play a vital role in disaster preparedness and mitigation, as they are often the first point of contact for many individuals and families within a community [6].

CHWs are trained and trusted members of the community who work to promote health and wellness, provide education and support, and connect individuals to healthcare services. In the context of disaster preparedness and mitigation, CHWs serve as a bridge between communities and formal healthcare systems, and their unique position allows them to play a key role in ensuring that communities are prepared for disasters and able to respond effectively when they occur [7].

One of the primary responsibilities of CHWs in disaster preparedness is to educate and empower community members to take proactive measures to mitigate the impact of disasters. This includes providing information on how to create emergency preparedness plans, assemble emergency kits, and develop communication and evacuation strategies. CHWs also work to identify and address the specific needs and vulnerabilities of different populations within the community, such as the elderly, individuals with disabilities, and those with chronic illnesses, to ensure that their unique needs are taken into account in disaster planning and response efforts [8].

In addition to education and empowerment, CHWs also play a crucial role in building community resilience and fostering a sense of solidarity and support among community members. They work to strengthen social networks and community partnerships, facilitate the development of community-based disaster response teams, and promote the establishment of safe spaces and shelters for those in need during a disaster. By fostering a sense of community cohesion and collective action, CHWs contribute to the overall resilience of the community and its ability to effectively respond to disasters [9].

During a disaster, CHWs are often on the front lines, providing immediate assistance and support to individuals and families in need. They may assist with evacuation efforts, provide first aid and basic medical care, and help to coordinate the delivery of essential supplies and services. CHWs also serve as advocates for the needs of the community,

communicating with formal healthcare systems and government agencies to ensure that the specific needs of the community are addressed in the response efforts [10].

In the aftermath of a disaster, CHWs continue to play a critical role in providing ongoing support and assistance to the community. They help to facilitate access to healthcare services, mental health support, and other essential resources, and work to address the long-term health and social impacts of the disaster on the community. By providing ongoing education and support, CHWs help to ensure that the community is better prepared for future disasters and is able to recover and rebuild more effectively [11].

CHWs are essential partners in disaster preparedness and mitigation efforts, playing a critical role in educating, empowering, and supporting communities to effectively respond to disasters. Their unique position within the community allows them to address the specific needs and vulnerabilities of different populations, build community resilience, and facilitate the delivery of essential services during and after a disaster. As such, CHWs are invaluable assets in ensuring the health and well-being of communities in the face of disasters [12].

CHWs' Contributions to Emergency Response Coordination:

Community Health Workers (CHWs) play a crucial role in emergency response coordination by bridging the gap between healthcare providers and the communities they serve. Their unique position as trusted members of the community allows them to effectively communicate health information, provide support, and facilitate access to care during times of crisis [13].

One of the primary responsibilities of CHWs in emergency response coordination is to disseminate important health information to community members. During a crisis, such as a natural disaster or disease outbreak, accurate and timely information can be a matter of life and death. CHWs are able to use their knowledge of the community and cultural sensitivity to effectively communicate health messages in a way that is easily understood and accepted by community members. By serving as trusted messengers, CHWs can help to dispel myths, address misconceptions, and promote healthy behaviors that can prevent the spread of disease and mitigate the impact of emergencies [14].

In addition to providing health education, CHWs also play a key role in providing support to community members during emergencies. They can offer emotional support, connect individuals to

resources, and help to address social determinants of health that may exacerbate the impact of a crisis. For example, during a natural disaster, CHWs may help to coordinate shelter, food, and transportation for individuals who have been displaced from their homes. By addressing the social and emotional needs of community members, CHWs can help to build resilience and promote recovery in the aftermath of an emergency [15].

Furthermore, CHWs are instrumental in facilitating access to care for community members during emergencies. They can help to identify individuals who may be at risk for health complications, connect them to healthcare providers, and ensure that they receive the care they need in a timely manner. This is particularly important in underserved communities where access to healthcare services may be limited. By serving as a link between healthcare providers and the community, CHWs can help to ensure that no one falls through the cracks during a crisis [16].

The impact of CHWs' contributions to emergency response coordination is significant and far-reaching. Studies have shown that communities with strong CHW programs have better health outcomes during emergencies, including lower rates of morbidity and mortality. By empowering communities to take control of their health and well-being, CHWs can help to build a more resilient and prepared population that is better equipped to respond to emergencies [17].

CHWs play a vital role in emergency response coordination by providing health education, support, and access to care to community members during times of crisis. Their unique position as trusted members of the community allows them to effectively communicate health information, address social determinants of health, and facilitate access to care in a way that is culturally sensitive and responsive to the needs of the community. By recognizing and supporting the contributions of CHWs in emergency response coordination, we can help to build stronger, healthier communities that are better prepared to respond to emergencies and protect the health and well-being of all individuals [18].

Impact of CHWs on Health Outcomes in Emergency Settings:

Community Health Workers (CHWs) play a crucial role in improving health outcomes in emergency settings. These frontline healthcare workers are trained to provide basic healthcare services and education to underserved populations, particularly in low-resource and crisis-affected areas. Their presence can make a significant difference in the health and well-being of communities during

emergencies, such as natural disasters, disease outbreaks, and conflicts [19].

One of the key impacts of CHWs in emergency settings is their ability to provide timely and culturally sensitive healthcare services to populations in need. In many emergency situations, access to healthcare facilities may be limited or disrupted, making it difficult for people to receive essential medical care. CHWs, who are often members of the communities they serve, can bridge this gap by delivering services directly to people's homes or temporary shelters. This not only ensures that individuals receive the care they need promptly but also helps to build trust and rapport with the community, leading to better health outcomes in the long term [20].

CHWs also play a crucial role in promoting health education and disease prevention during emergencies. In times of crisis, there is often a heightened risk of disease outbreaks due to overcrowding, poor sanitation, and limited access to clean water. CHWs can educate communities on proper hygiene practices, disease prevention strategies, and the importance of seeking medical care when needed. By empowering individuals with knowledge and skills to protect themselves and their families, CHWs can help prevent the spread of infectious diseases and reduce the burden on already strained healthcare systems [21].

Furthermore, CHWs can provide psychosocial support to individuals and communities affected by emergencies. The stress and trauma of experiencing a crisis can have long-lasting effects on mental health and well-being. CHWs are trained to provide emotional support, counseling, and referrals to mental health services for those in need. By addressing the psychological impact of emergencies, CHWs can help individuals cope with their experiences and build resilience for future challenges [22].

Research has shown that the presence of CHWs in emergency settings can lead to improved health outcomes for communities. A study conducted in refugee camps in conflict-affected areas found that CHWs were effective in reducing maternal and child mortality rates by providing prenatal care, immunizations, and nutrition support to pregnant women and children. Another study in post-disaster settings showed that CHWs played a critical role in identifying and treating infectious diseases, such as cholera and malaria, thereby preventing outbreaks and saving lives [23].

CHWs have a significant impact on health outcomes in emergency settings by providing timely and culturally sensitive healthcare services, promoting health education and disease prevention, and offering psychosocial support to individuals

and communities. Their presence is essential in ensuring that vulnerable populations receive the care and support they need during times of crisis. Governments, NGOs, and healthcare organizations should invest in training and deploying CHWs in emergency settings to strengthen healthcare systems, improve health outcomes, and build resilience in communities facing emergencies [24].

Challenges Faced by CHWs in Emergency Response and Recovery:

Community Health Workers (CHWs) play a crucial role in emergency response and recovery efforts, particularly in times of natural disasters, disease outbreaks, and other public health crises. These frontline workers are often the first point of contact for individuals in need of medical assistance, health education, and social support. However, CHWs face a myriad of challenges in carrying out their duties effectively and efficiently [25].

One of the major challenges faced by CHWs is lack of adequate training and resources. Many CHWs are volunteers or have limited formal education in healthcare. As a result, they may not have the necessary skills and knowledge to respond effectively to emergencies. In addition, CHWs often work in resource-constrained settings where there is a lack of basic medical supplies, equipment, and infrastructure. This can hinder their ability to provide timely and quality care to those in need [26].

Another challenge faced by CHWs is the lack of recognition and support from the healthcare system. CHWs are often undervalued and underpaid for the important work they do. They may not have access to the same benefits and protections as other healthcare workers, such as insurance coverage, sick leave, and professional development opportunities. This can lead to burnout and high turnover rates among CHWs, further exacerbating the shortage of frontline healthcare workers in emergency situations [27].

Furthermore, CHWs face cultural and social barriers that can impede their ability to effectively engage with communities in need. In some cases, CHWs may face resistance or mistrust from community members due to language barriers, cultural differences, or historical injustices. This can make it difficult for CHWs to build rapport and establish trust with those they are trying to help, hindering their ability to deliver essential services and support in times of crisis [28].

Additionally, CHWs often lack access to mental health and psychosocial support services to help them cope with the emotional toll of their work. Responding to emergencies and witnessing the suffering of others can take a significant toll on

CHWs' mental health and well-being. Without access to proper support services, CHWs may experience high levels of stress, anxiety, and burnout, which can impact their ability to perform their duties effectively and sustainably [29].

CHWs face a multitude of challenges in emergency response and recovery efforts. From lack of training and resources to insufficient recognition and support, these frontline workers are often working in challenging conditions that can impact their ability to provide quality care and support to those in need. It is crucial for healthcare systems and policymakers to address these challenges and provide CHWs with the necessary training, resources, and support to enable them to effectively respond to emergencies and contribute to the health and well-being of their communities [30].

Strategies to Enhance Effectiveness and Sustainability of CHWs:

Community Health Workers (CHWs) play a crucial role in bridging the gap between healthcare providers and underserved communities. They are frontline healthcare workers who are trusted members of the community they serve, and they play a key role in promoting health education, providing preventive care, and connecting community members to healthcare services. In order to enhance the effectiveness and sustainability of CHWs, it is important to implement strategies that support their work and ensure that they are able to continue providing valuable services to their communities [31].

One strategy to enhance the effectiveness of CHWs is to provide them with comprehensive training and ongoing support. CHWs should receive training on a wide range of topics, including health promotion, disease prevention, and community outreach. They should also receive training on how to effectively communicate with community members, build trust, and provide culturally sensitive care. Ongoing support is also crucial, as it allows CHWs to continue to develop their skills and stay up-to-date on the latest healthcare information and resources [32].

Another strategy to enhance the effectiveness of CHWs is to ensure that they have access to the resources and tools they need to do their jobs effectively. This includes providing CHWs with the necessary equipment, such as medical supplies and educational materials, as well as access to technology, such as smartphones and tablets, that can help them communicate with healthcare providers and track their work. Additionally, CHWs should have access to transportation and other logistical support to ensure that they are able to reach community members in need of care [33].

In order to enhance the sustainability of CHWs, it is important to recognize and support the valuable work that they do. This includes advocating for policies that support the integration of CHWs into the healthcare system, as well as securing funding to support their work. It is also important to involve CHWs in the decision-making process and ensure that their voices are heard when it comes to developing programs and policies that affect their work [4].

Furthermore, it is important to invest in the professional development of CHWs and provide opportunities for career advancement. This can include offering training programs that allow CHWs to develop new skills and take on leadership roles within their organizations. By investing in the professional development of CHWs, we can ensure that they are able to continue providing high-quality care to their communities for years to come [24].

CHWs play a vital role in promoting health and well-being in underserved communities. By implementing strategies to enhance their effectiveness and sustainability, we can ensure that CHWs are able to continue providing valuable services to their communities and improving health outcomes for all. It is essential that we recognize the important work that CHWs do and provide them with the support and resources they need to succeed. By investing in CHWs, we can create a healthier and more equitable healthcare system for all [9].

Recommendations for Integrating CHWs into Emergency Management Policies:

Community Health Workers (CHWs) play a crucial role in promoting health and wellness within communities, particularly during times of emergency. As trusted members of their communities, CHWs are able to bridge the gap between healthcare providers and the populations they serve, providing culturally sensitive and linguistically appropriate care. Integrating CHWs into emergency management policies can enhance the effectiveness of disaster response efforts and improve health outcomes for vulnerable populations [11].

One of the key reasons for integrating CHWs into emergency management policies is their unique ability to reach underserved populations. During emergencies, vulnerable populations such as low-income communities, immigrants, and people with limited English proficiency are often disproportionately affected. CHWs are well-positioned to provide these populations with critical information on emergency preparedness, evacuation procedures, and available resources. By

incorporating CHWs into emergency management policies, policymakers can ensure that these populations receive the support they need during times of crisis [27].

Furthermore, CHWs can help to build trust and rapport within communities, which is essential for effective emergency response. In many cases, community members may be hesitant to seek help from traditional healthcare providers or government agencies during emergencies. CHWs, who are often members of the communities they serve, can help to alleviate these concerns and provide reassurance to community members. By including CHWs in emergency management policies, policymakers can leverage their existing relationships and credibility to enhance communication and coordination during emergencies [30].

In order to effectively integrate CHWs into emergency management policies, several recommendations should be considered. First and foremost, policymakers should recognize the value of CHWs and prioritize their inclusion in emergency planning efforts. This may involve providing funding for CHW training programs, establishing partnerships between CHWs and emergency management agencies, and incorporating CHWs into emergency response teams [19].

Additionally, policymakers should work to ensure that CHWs receive the necessary training and resources to effectively carry out their roles during emergencies. This may include training on emergency preparedness protocols, communication strategies, and cultural competency. By investing in the professional development of CHWs, policymakers can enhance their capacity to support communities during times of crisis [18].

Furthermore, policymakers should engage with CHWs and community members in the development of emergency management policies. CHWs can provide valuable insights into the needs and priorities of their communities, helping to ensure that emergency response efforts are tailored to meet the unique challenges faced by vulnerable populations. By involving CHWs in the planning process, policymakers can enhance the relevance and effectiveness of their emergency management policies [2].

Integrating CHWs into emergency management policies is essential for enhancing the effectiveness of disaster response efforts and improving health outcomes for vulnerable populations. By recognizing the unique role that CHWs play in promoting community health and wellness, policymakers can leverage their expertise to

strengthen emergency preparedness and response efforts [29].

Conclusion:

In conclusion, CHWs play a vital role in emergency response by providing essential healthcare services, connecting individuals to resources, and educating communities about health and safety. Their dedication and hard work help to ensure that everyone has access to the care they need during emergencies, and their impact on public health is invaluable. As we continue to face new challenges and emergencies, the role of CHWs will only become more important in protecting the health and well-being of communities around the world.

References:

1. Perry HB, Zulliger R, Rogers MM. Community health workers in low-, middle-, and high-income countries: an overview of their history, recent evolution, and current effectiveness. *Annu Rev Public Health*. 2014;35:399-421.
2. Scott K, Beckham SW, Gross M, et al. What do we know about community-based health worker programs? A systematic review of existing reviews on community health workers. *Hum Resour Health*. 2018;16(1):39.
3. World Health Organization. Community health workers: What do we know about them? The state of the evidence on programmes, activities, costs and impact on health outcomes of using community health workers. Geneva: WHO; 2007.
4. Bhutta ZA, Lassi ZS, Pariyo G, Huicho L. Global experience of community health workers for delivery of health related millennium development goals: a systematic review, country case studies, and recommendations for integration into national health systems. Geneva: WHO; 2010.
5. Naimoli JF, Frymus DE, Wuliji T, Franco LM, Newsome MH. A community health worker "logic model": towards a theory of enhanced performance in low- and middle-income countries. *Hum Resour Health*. 2014;12:56.
6. Schneider H, Okello D, Lehmann U. The global pendulum swing towards community health workers in low- and middle-income countries: a scoping review of trends, geographical distribution and programmatic orientations, 2005 to 2014. *Hum Resour Health*. 2016;14(1):65.
7. LeFevre AE, Dane P, Copley CJ, et al. Unpacking the performance of a mobile health information messaging program for community health workers in Malawi: a qualitative study. *JMIR Mhealth Uhealth*. 2017;5(1):e5.

8. Perry H, Crigler L, Lewin S, Glenton C, LeBan K, Hodgins S. A new resource for developing and strengthening large-scale community health worker programs. *Hum Resour Health*. 2017;15(1):13.
9. Kok MC, Dieleman M, Taegtmeier M, et al. Which intervention design factors influence performance of community health workers in low- and middle-income countries? A systematic review. *Health Policy Plan*. 2015;30(9):1207-27.
10. Black RE, Taylor CE, Arole S, Bang A, Bhutta ZA, Chowdhury AMR, et al. Comprehensive review of the evidence regarding the effectiveness of community-based primary health care in improving maternal, neonatal and child health: 8. summary and recommendations of the Expert Panel. *J Glob Health*. 2017;7(1):010908.
11. Haines A, Sanders D, Lehmann U, et al. Achieving child survival goals: potential contribution of community health workers. *Lancet*. 2007;369(9579):2121-31.
12. Rosato M, Laverack G, Grabman LH, Tripathy P, Nair N, Mwansambo C, et al. Community participation: lessons for maternal, newborn, and child health. *Lancet*. 2008;372(9642):962-71.
13. Lewin S, Munabi-Babigumira S, Glenton C, Daniels K, Bosch-Capblanch X, van Wyk BE, et al. Lay health workers in primary and community health care: a systematic review of trials. *BMC Health Serv Res*. 2010;10:286.
14. Lehmann U, Sanders D. Community health workers: what do we know about them? The state of the evidence on programmes, activities, costs and impact on health outcomes of using community health workers. Geneva: WHO; 2007.
15. Perry HB, Zulliger R, Rogers MM. Community health workers in low-, middle-, and high-income countries: an overview of their history, recent evolution, and current effectiveness. *Annu Rev Public Health*. 2014;35:399-421.
16. Scott K, Beckham SW, Gross M, et al. What do we know about community-based health worker programs? A systematic review of existing reviews on community health workers. *Hum Resour Health*. 2018;16(1):39.
17. World Health Organization. Community health workers: What do we know about them? The state of the evidence on programmes, activities, costs and impact on health outcomes of using community health workers. Geneva: WHO; 2007.
18. Bhutta ZA, Lassi ZS, Pariyo G, Huicho L. Global experience of community health workers for delivery of health related millennium development goals: a systematic review, country case studies, and recommendations for integration into national health systems. Geneva: WHO; 2010.
19. Naimoli JF, Frymus DE, Wuliji T, Franco LM, Newsome MH. A community health worker "logic model": towards a theory of enhanced performance in low- and middle-income countries. *Hum Resour Health*. 2014;12:56.
20. Schneider H, Okello D, Lehmann U. The global pendulum swing towards community health workers in low- and middle-income countries: a scoping review of trends, geographical distribution and programmatic orientations, 2005 to 2014. *Hum Resour Health*. 2016;14(1):65.
21. LeFevre AE, Dane P, Copley CJ, et al. Unpacking the performance of a mobile health information messaging program for community health workers in Malawi: a qualitative study. *JMIR Mhealth Uhealth*. 2017;5(1):e5.
22. Perry H, Crigler L, Lewin S, Glenton C, LeBan K, Hodgins S. A new resource for developing and strengthening large-scale community health worker programs. *Hum Resour Health*. 2017;15(1):13.
23. Kok MC, Dieleman M, Taegtmeier M, et al. Which intervention design factors influence performance of community health workers in low- and middle-income countries? A systematic review. *Health Policy Plan*. 2015;30(9):1207-27.
24. Black RE, Taylor CE, Arole S, Bang A, Bhutta ZA, Chowdhury AMR, et al. Comprehensive review of the evidence regarding the effectiveness of community-based primary health care in improving maternal, neonatal and child health: 8. summary and recommendations of the Expert Panel. *J Glob Health*. 2017;7(1):010908.
25. Haines A, Sanders D, Lehmann U, et al. Achieving child survival goals: potential contribution of community health workers. *Lancet*. 2007;369(9579):2121-31.
26. Rosato M, Laverack G, Grabman LH, Tripathy P, Nair N, Mwansambo C, et al. Community participation: lessons for maternal, newborn, and child health. *Lancet*. 2008;372(9642):962-71.
27. Lewin S, Munabi-Babigumira S, Glenton C, Daniels K, Bosch-Capblanch X, van Wyk BE, et al. Lay health workers in primary and community health care: a systematic review of trials. *BMC Health Serv Res*. 2010;10:286.
28. Lehmann U, Sanders D. Community health workers: what do we know about them? The

- state of the evidence on programmes, activities, costs and impact on health outcomes of using community health workers. Geneva: WHO; 2007.
29. Perry HB, Zulliger R, Rogers MM. Community health workers in low-, middle-, and high-income countries: an overview of their history, recent evolution, and current effectiveness. *Annu Rev Public Health*. 2014;35:399-421.
 30. Scott K, Beckham SW, Gross M, et al. What do we know about community-based health worker programs? A systematic review of existing reviews on community health workers. *Hum Resour Health*. 2018;16(1):39.
 31. World Health Organization. Community health workers: What do we know about them? The state of the evidence on programmes, activities, costs and impact on health outcomes of using community health workers. Geneva: WHO; 2007.
 32. Bhutta ZA, Lassi ZS, Pariyo G, Huicho L. Global experience of community health workers for delivery of health related millennium development goals: a systematic review, country case studies, and recommendations for integration into national health systems. Geneva: WHO; 2010.
 33. Naimoli JF, Frymus DE, Wuliji T, Franco LM, Newsome MH. A community health worker "logic model": towards a theory of enhanced performance in low- and middle-income countries. *Hum Resour Health*. 2014;12:56.