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Title

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Permalink

<https://escholarship.org/uc/item/90d2s4k7>

Journal

The Lancet, 393(10190)

ISSN

0140-6736

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Publication Date

2019-06-01

DOI

10.1016/s0140-6736(19)30648-8

Peer reviewed



HHS Public Access

Author manuscript

Lancet. Author manuscript; available in PMC 2020 June 22.

Published in final edited form as:

Lancet. 2019 June 22; 393(10190): 2535–2549. doi:10.1016/S0140-6736(19)30648-8.

Disrupting gender norms in health systems: making the case for change

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KH and AR led conceptualisation and drafting of the paper. AD led the study on nurses in Uttar Pradesh, ND the study on accredited social health activists in Uttar Pradesh, HW and JR the study on community health workers and community health worker policy in Sierra Leone, LM, JK, and AR the study on gender parity in the global physician workforce, and KH, YA, and NS the study on self-help groups in India. FS and RF-M led development of the case on the nurse from eSwatini. VP, RH, and EBa did the systematic literature review on health systems models. JGS and AR led the systematic review on gender transformative clinical interventions. KH, LM, JK, FS, RF-M, AD, YA, JY, EBI, NB, JGS, and AR did the critical reviews of the literature on gender inequalities and gender norms affecting health and helped draft pieces of those reviews, with consideration of diverse geographic contexts. All authors offered critical inputs and reviews of this work, contributed intellectual and substantive revisions to the writing, and provided final approval of the submitted version.

*Members of the Steering Committee are listed at the end of this Series paper

This is the fourth in a Series of five papers about gender equality, norms, and health

Steering Committee of *The Lancet Series* on Gender Equality, Norms, and Health

Gary Darmstadt (chair), Margaret Greene, Sarah Hawkes, Lori Heise, Sarah Henry, Jody Heymann, Jeni Klugman, Ruth Levine, Anita Raj, Geeta Rao Gupta.

Declaration of interests

The work of the Series was funded by the Gender Equality, Integrated Delivery, HIV, Nutrition, Family Planning, and Water, Sanitation, and Hygiene programme strategy teams at the Gates Foundation and the United Arab Emirates Ministry of Foreign Affairs and International Cooperation through grants to Stanford University. The funders of the study had no role in study design, data collection, data analysis, data interpretation, or writing of the report. The corresponding author had full access to all the data and had final responsibility to submit the paper for publication. The views expressed are those of the authors and are not necessarily those of the Gates Foundation and the United Arab Emirates. As corresponding author, AR had full access to all data and final responsibility to submit for publication. KH and YA are employed by the Bill & Melinda Gates Foundation. The other authors declare no competing interests.

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Gender Equality, Norms, and Health Steering Committee**Abstract**

Restrictive gender norms and gender inequalities are replicated and reinforced in health systems, contributing to gender inequalities in health. In this Series paper, we explore how to address all three through recognition and then with disruptive solutions. We used intersectional feminist theory to guide our systematic reviews, qualitative case studies based on lived experiences, and quantitative analyses based on cross-sectional and evaluation research. We found that health systems reinforce patients' traditional gender roles and neglect gender inequalities in health, health system models and clinic-based programmes are rarely gender responsive, and women have less authority as health workers than men and are often devalued and abused. With regard to potential for disruption, we found that gender equality policies are associated with greater representation of female physicians, which in turn is associated with better health outcomes, but that gender parity is insufficient to achieve gender equality. We found that institutional support and respect of nurses improves quality of care, and that women's empowerment collectives can increase health-care access and provider responsiveness. We see promise from social movements in supporting women's reproductive rights and policies. Our findings suggest we must view gender as a fundamental factor that predetermines and shapes health systems and outcomes. Without addressing the role of restrictive gender norms and gender inequalities within and outside health systems, we will not reach our collective ambitions of universal health coverage and the Sustainable Development Goals. We propose action to systematically identify and address restrictive gender norms and gender inequalities in health systems.

Introduction

Health systems are necessary for effective and efficient health-care delivery. Their strength is fundamental to achieving universal health coverage, a target of the Sustainable Development Goals (SDGs) shared by 193 nations.¹ Gender inequalities and biases rooted in restrictive gender norms, described in other papers in this Series,¹⁻³ are also reflected in health systems. Left unaddressed, gender inequalities can weaken or even incapacitate a health system's functioning, as seen in Taliban-controlled Afghanistan in the 1990s, where female health providers were denied the right to practice, compromising health-care access and quality.⁴ Other examples might be less extreme, but 20 years of cross-national research from high-income countries and low-income and middle-income countries shows that gender inequalities are embedded in our health systems,⁵⁻⁷ are rarely addressed,⁵⁻⁸ and impede our capacity to achieve universal health coverage.¹

In this paper, the fourth in a Series on gender equality, norms, and health, we examine how to address restrictive norms and inequalities in health systems, through recognition and disruptive solutions. We used intersectional feminist theory to guide our approach,^{9,10} reviewing the literature and doing new empirical analyses. We aimed to determine how restrictive gender norms and gender inequalities manifest in health systems and how we can disrupt health systems in ways that address, reduce, or prevent gender inequalities and the underlying restrictive gender norms that maintain them. Findings from this work offer insights into how health systems leadership, policy makers, and community activists can work together to create more equitable and accountable health systems.

How do gender norms and inequalities manifest in health systems?

To understand the implications of restrictive gender norms and inequalities in health systems, we consider both gender inequalities in the health system and the health system's response to them. Health systems are comprised of components (eg, clinical facilities, financing, governance, and workforce) to support health for populations at scale (figure 1, 2).¹¹ Interactions within and between the health system and community are influenced by restrictive gender norms and inequalities (eg, power and trust), affecting the strength, efficiency, and health impact of health system components and the system as a whole.¹² Restrictive gender norms and inequalities endemic in society (ie, the larger social and policy environment in which the system exists) are mirrored, reinforced and perpetuated in health systems, harming the system and compromising the health of communities (ie, the immediate environment directly served by the system).

Theory

Our analysis is built on intersectional feminist theory, which posits that multiple social identities and experiences of social marginalisation (ie, subordination and exclusion based on social characteristics such as gender, race or ethnicity, class or caste, social position, etc) intersect to create compounded privilege or marginalisation for individuals.¹⁰ Put more simply, power and hierarchy manifests in health systems in ways that make some people more likely to gain benefit, be supported, and advanced, while others are more likely to be marginalised or disempowered. Hence, we consider not just gender inequalities but also social inequalities and their intersection, including inequalities based on social positioning in health systems, which commonly value physicians over nurses, for example, and medical structures over community. Gender and health system hierarchies, in conjunction with other hierarchies attached to social characteristics, maintain power structures that advantage some at the cost of others, reinforcing social and gender inequalities within health systems and health outcomes.^{9,10}

Intersectional feminist theory points to the overlapping and intersecting nature of inequalities in health systems and highlights the need for accountability to eliminate these inequalities.¹⁰ We also draw upon feminist standpoint theory, which posits that perspectives are shaped by intersecting identities and social and political experiences, which are multifaceted rather than universal. In this Series paper, our objective engagement with the research, or strong objectivity as Harding¹³ called it, entails the inclusion of diverse

perspectives, such as those well positioned to recognise and question inequalities and marginalisation. We built our research team with this theoretical underpinning in mind and focused on research questions that emphasise hierarchies and marginalisation within the health system and respectful and high-quality health-care delivery.

Methods

We critically reviewed the published literature to guide our understanding of how restrictive gender norms and gender inequalities manifest in health systems (panel). Given the enormity of the literature and the contextual nature of health systems, we based reviews on input from a working group of 22 multidisciplinary experts on gender and health from across four continents. These experts included nurse and physician researchers, social scientists with qualitative and quantitative research expertise, and health systems experts to guide our conceptualisation and analysis. Experts guided priority areas of focus for review—gender inequalities in health and gender inequalities in the health-care workforce—and helped identify key papers reflective of cases from diverse regions of the world.

Recognising the importance of the lived experiences of female health-care workers, experiences of gender inequalities, professional opportunities, and the role of policy in affecting such opportunities, we also included two qualitative studies. Case 1 concerns the life course of an HIV nurse in eSwatini and is based on the aggregated stories taken from qualitative and demographic data. Case 2 is a policy analysis using qualitative data from community health workers and their managers, following the introduction of a policy to ensure better support and remuneration for community health workers in Sierra Leone.

How do health systems affect gender inequalities in health?

Health services prioritise care in ways consistent with traditional norms, which results in poor care for women, men, and gender minorities.³¹ Examples include valuing women on the basis of their reproductive capacity and provision of care for children, viewing men as strong and not in need of care, and defining both as heterosexual and cisgender (ie, where biological sex at birth matches gender).³¹ For example, women are at greater risk than men for depression or anxiety,³²⁻³⁴ cancer,³⁵ and health burdens due to ageing,^{36,37} but health systems show little response to these differences and in some contexts show worse care than for men.³⁸ In India, which has a glaring sex ratio imbalance³⁹ attributed in part to lower health-care seeking for female relative to male children,^{40,41} there is little indication that health services are addressing these biases.⁴¹

Men's health receives even less focus, even though men have higher health risks and lower life expectancy relative to women,^{32,33,42-48} and restrictive gender norms related to masculinity have been linked to behavioural risks (eg, substance use, suicide, and injury) and delayed health seeking.^{42,49,50} Furthermore, there is evidence that providers differentially respond to men seeking care, assuming lower compliance for male relative to female patients.^{51,52} Men are often excluded from maternal and child health care, despite evidence of the importance of their inclusion; research documents clinical resistance to men's engagement in maternal and paediatric care, reinforcing restrictive norms that men are not needed for maternal and child health.⁵³⁻⁵⁵ Health disparities for sexual and gender

minorities are also well documented, and include lower health-care coverage, higher physical and mental health concerns and unmet medical needs, and increased behavioural risks (eg, substance use, violence, and sex trade involvement) and prevalence of sexually transmitted infections and HIV.⁵⁶⁻⁶² For both sexual and gender minorities, stigmatisation and discrimination from health providers is common,⁶³⁻⁶⁵ reinforcing barriers to health care for these groups. Such issues are even more prominent in countries where sexual and gender minorities are criminalised, a health and human rights violation rooted in restrictive gender norms.^{56,58,59,66}

Health systems must recognise and respond to the negative effects of restrictive gender norms to address the inequalities they reinforce.⁶⁷ Responses range from gender unequal (reinforcing male advantage) to, far less commonly, gender transformative (altering gender norms and power; appendix).⁶⁸ We systematically reviewed health system models (n=17) and found few that guide gender responsiveness (appendix). The more widely known and used models, including the Control Knobs,⁶⁹ Building Blocks,⁷⁰ and the Universal Coverage Cube,⁷¹ are mechanistic in nature, mapping components but not how they interact with the social environment. Other models recognise that health systems are dynamic and complex^{12,72-74} but do not provide an intersectional gender analysis to understand how gender bias and restrictive gender norms affect health systems.

A parallel systematic review of gender transformative clinical interventions yielded few studies, despite research documenting their capacity to affect wellbeing (appendix).⁷⁵ Only four identified studies⁷⁶⁻⁷⁹ used a clinic-based gender transformative approach and showed significant health impact. These studies focused on family planning counselling or intimate partner violence and on counselling to improve restrictive gender norms and inequalities to promote health. Although few studies were identified, they resulted in multiplicative behavioural health effects (eg, reduction in intimate partner violence and increased contraceptive use), suggesting that gender transformative approaches can produce multifold benefits.

Gender inequalities in health persist with little response from health systems, which is not surprising because our models of health systems do not guide us to consider or address gender inequalities. These findings highlight a missed opportunity to engage health systems in gender transformative strategies to improve health at a population level.

How do gender inequalities manifest in the health-care workforce?

Globally, women remain least represented at the top of the medical hierarchy, among health ministers and physicians, and most represented at the bottom as nurses, nurse midwives, and community health workers^{5-8,31,80} and hold positions of lesser authority across the bulk of the formal system.^{7,31,81-83} Similar gender patterns are seen in the informal health sectors, where women are the vast majority of unpaid health workers.^{5,7,84} These gender inequalities in the health-care workforce are bolstered by underlying restrictive gender norms that maintain the cure versus care standard. Where communities look to physicians and specialists to cure, nurses and community health workers are expected to care, with services from nurses and community health workers viewed as less skilled, less deserving of

remuneration, and more aligned with women's traditional gender role as caregivers.^{31,85-87} Even when women are in higher trained positions, such as physicians, gender biases persist in opportunity and position.⁸⁸⁻⁹⁰ In the USA, only 15% of medical school deans are women,⁹¹ and, when appointed, female deans are often assigned to nurturing roles (eg, student affairs) rather than policy setting (eg, finance) roles.⁹¹⁻⁹⁴ Low visibility of women in these leadership and cure roles, combined with early exposure to gendered expectations for girls to serve in caring roles and for boys to develop maths or science (cure) skills, maintain these positions, as illustrated by Case 1: The life story of Simphiwe (appendix). This case highlights how gender norms affect career aspirations and expectations.

This relegation has both social and economic costs. Providers higher in the health system hierarchy (ie, physicians) not only hold more prestige, larger and more stable salaries, and greater opportunity for advancement, they also have greater job security, greater freedom in practice, more optimal locations of work, and lower risk of abuse by and within the system.^{5,7,8,80} In many contexts, even those with majority female primary care physicians, curing physicians are viewed as male. Research from the USA has found that early in medical training, women are advised against working in specialties with higher mortality risks for patients and longer work hours, such as surgery.^{95,96} They can receive social backlash from peers and superiors if assertive, even when providing care in high mortality situations, where it is a requirement.⁹⁷ Sex differences in health research productivity have also been documented,^{76,98,99} in part due to biases in peer review of papers and grants,¹⁰⁰⁻¹⁰² although these differences are improving.⁹⁹ Such biases are not only unfair, they compromise the breadth and perspectives of research^{103,104} and, combined with the greater burdens of workplace harassment and domestic labour responsibilities women face relative to men, increase burnout and attrition of these workers.^{94,105-107} Simultaneously, restrictive gender norms maintain greater expectations of male employment and earning, often resulting in their prioritised employment and salaries. This prioritisation of male over female employment and salary is illustrated by Case 2: Unintended consequences of a gender blind policy to salary community health workers in Sierra Leone (appendix). This case was developed from qualitative data collected from community health worker managers. Findings indicate that upon salarising community health workers, men more than women took these roles, reinforced by restrictive gender norms related to male employment and female domestic responsibilities.

As noted previously, lower positioning in the hierarchical health system increases vulnerability to abuse and mistreatment, including devaluation and even assault. There is substantial evidence of devaluation of community health workers,^{5,8,31,80,108,109} a growing cadre of minimally trained staff that is largely or exclusively female. Public health systems increasingly rely on community health workers for community outreach and education to increase demand for and use of clinical care,¹¹⁰⁻¹¹² especially in low-resource and conflict-affected settings.¹¹³⁻¹¹⁵ Community health workers have a lynchpin role in supporting the health system's reach and health impact for socially marginalised groups, typically in their own communities, yet these positions continue to range from low paid, to incentivised, to unpaid.^{5,8,31,80,108,109} Poor and unpaid salaries for community health workers are rooted in beliefs from across cultures and over time that women seeking payment for health-care services should be viewed with skepticism and distrust, because care is a part of women's

nature and responsibility, whereas paid employment is for men.^{31,116,117} Norms that community health workers should be motivated by altruism rather than money are reinforced by donors, the health system, communities, and community health workers themselves and are used to justify low or non-salaried positions.¹¹¹ Such gendered role expectations are stronger in contexts of restricted female employment and crisis.^{7,118-122} Social harassment, alienation, and even violence can arise from women failing to adhere to the expected gender norm as a caregiver.^{123,124}

Nurses and midwives constitute about half of the health-care workforce globally.¹²⁵ However, there is a shortage of nursing staff,¹²⁵ with fewer women entering nursing in part due to its low status and pay and disrespectful treatment, despite the requisite training and credentials.¹²⁶⁻¹²⁸ In a common context of substantial overwork (eg, high patient:provider ratio), inadequate institutional support and opportunity to advance, and absence of a supportive peer network,¹²⁹⁻¹³² there is also substantial documentation of the disrespect, abuse, and harassment, including sexual harassment in the workplace among nurses, with perpetrators of these abuses including physicians, supervisors, peers, and patients.¹³³⁻¹³⁸ Underlying gender norms of male hypersexuality and female sexual passivity create a tolerance for sexualisation and sexual harassment and abuse of women in the workplace for female nurses and female physicians.¹³⁹

These challenges of overwork and abuse manifest in work stress, job dissatisfaction, and burnout of nurses,^{132,135,136,140} resulting in poorer quality of care and even abuse of patients¹⁴¹⁻¹⁴⁵ and poorer patient outcomes.^{129,132,146} Poor quality care and abuse appear to disproportionately burden the most socially marginalised patients and communities, typically women and often the rural poor or young, the least resourced to demand or expect respectful treatment.^{141,143,144} These populations have lower clinical care use, as a means of avoiding poor treatment from providers,¹⁴⁷ further compromising their health. This picture suggests a kick down (ie, overwork and abuse of those lower in the health system hierarchy) to kick out (ie, abuse of socially marginalised patients or clients) health system dynamic consistent with other hierarchical structures with a climate of bullying.¹⁴⁸ These abuses disproportionately burden women and other socially marginalised groups as patients^{141,143,144} and health-care providers^{133-138,141,143} and probably go unreported by victims, with impunity for perpetrators.

Restrictive gender norms embedded and perpetuated in health systems devalue women's labour and capacity for skilled work and maintain a standard where female providers care with little or no recognition or remuneration, and males cure and, thus, deserve training and remuneration for their work. This standard facilitates overwork, devaluation and abuse of female health-care providers. These burdens, particularly in the stressful, hierarchical climates in medicine, foster a bullying culture that can lead to abuse of patients and ultimately, if left unaddressed, poor health outcomes.

How can we disrupt health systems in ways that transform gender norms?

Using the findings from our review, we identified three areas of disruption to explore. We emphasised approaches that can be gender transformative, altering restrictive gender norms

as a means of improving health. The first area relates to the cure versus care standard and underlying norms shaping employment that hinder women from becoming physicians. The second relates to the devaluing and abuse of female health workers, underlying domestic labour norms, and acceptability of disrespect and abuse of women. The third relates to the authority and power of the health-care system and the subsequent social and institutional tolerance of abuse, particularly for socially marginalised victims.

On the basis of these areas of focus, we did empirical analyses to examine the evidence on what might positively disrupt health systems (panel). We aimed to evaluate three issues: whether nations with higher gender development have a higher share of female physicians per capita, and whether it is associated with better health outcomes; whether female frontline workers who receive more respect and support from family, the community, and the health system, have greater productivity and health impact; and whether social mobilisation, through social movements or community organising, support gender equality and better quality of care from health systems.

Do nations with higher gender development have more female physicians per capita, and is it associated with better health outcomes?

Findings from our global analysis of the physician workforce indicate that only a third of physicians globally are female. Nations with higher female physician shares also had greater gender equality in education, access to resources and assets, and policy protections (figure 1A-D). We cannot assume causality or the direction of the relationship from these cross-sectional findings, but results suggest that greater representation of female physicians is supported by greater gender equality in social and economic realms, a finding corresponding with research on the value of gender equitable policies.³

We also examined whether higher female physician share is associated with better health outcomes. It is associated with lower maternal and infant mortality, longer life expectancies, and higher universal health coverage index subscores in reproductive, maternal, and child health and service capacity and access (figure 3). Exploratory analyses replicating these models adjusting for physicians per capita rather than year found that female physician share was no longer significant in most models. These findings, and those related to gender equality policies described previously, indicate that more equal representation of female physicians is likely reinforced by greater gender equality at the societal level and linked to better public health globally, possibly by supporting a larger physician workforce for primary care.

Improvement of gender parity in the physician workforce has value, particularly given evidence of ongoing institutionalised and policy discriminations against women in medicine.^{149,150} Higher representation of female relative to male physicians is occurring in many regions, including Western Europe,^{151,152} former Soviet States, and China.¹⁵²⁻¹⁵⁴ Higher female physician representation appears to correspond with higher representation of women in the labour force,¹⁵²⁻¹⁵⁴ but does not necessarily mean equal treatment, pay, or opportunity in these positions. When women are the majority of physicians or a physician specialty, wages for the position stagnate or even decline,^{152,155,156} as seen in other occupations when they become female dominated.¹⁵⁷ Even when women and men are in comparable

specialties, women often receive less pay for the same work.^{155,158} Gender parity in the workforce has value, but gender parity alone will not result in gender equality without systemic, political, and policy effort.

Do frontline workers receiving more respect and support have greater productivity and health impact?

Findings from a quantitative study of accredited social health activists in India, an exclusively female cadre of community health workers, and their clients suggest that family support and community respect are important for their productivity, but only family support, particularly for domestic labour responsibilities, is associated with health impact (ie, better service uptake among clients; figure 4). These results emphasise the importance of support, respect, and reductions in domestic labour responsibilities, particularly in strengthening productivity, earnings, and impact among community health workers. Findings highlight the need for transforming norms to support equitable redistribution of domestic labour to help reinforce the valuing and health impact of women's professional work.

A qualitative case study of nurses and their supervisors indicated that positive supervision, in conjunction with community value for nurses, occurred in high performing clinics, whereas punitive supervision, little peer support, low community value for nurses, and a high burden workload for nurses occurred in the low performing facilities (appendix). These findings are consistent with previous research documenting that nurse satisfaction is higher in institutions with supervisors who value nurse training and contributions, deliver feedback using validation and correction rather than punitively, and provide opportunities for advancement.
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Improved treatment, value, and respect for these predominantly or exclusively female workers and their work would be gender transformative, helping alter the gender norm-reinforced cure versus care standard that persists in health systems. However, improved value based on compensation and advancement opportunities are also needed.

Can social mobilisation support better quality care from health systems?

In the past two decades, community organising for health has become increasingly common, building policy demands, community awareness of health concerns, and increasing use of health services.¹⁶² Systematic reviews and meta-analyses^{163,164} show that community groups help bring moderate to strong improvements in agency,¹⁶⁵ economic empowerment,¹⁶⁶ social or political empowerment,¹⁶⁷ and health¹⁶⁸⁻¹⁷² at the individual and community levels. Women's movements and social movements that target gender roles have gained traction, bringing gendered health policy improvements, as occurred with the expansion of reproductive rights in Ireland¹⁷³ and the strengthening of the criminal justice system's response to rape in India.¹⁷⁴ The global #MeToo movement against sexual assault and harassment, built through women's collective responses and use of social media, is reverberating across sectors. In the USA, it led to research documenting that a third of women in science and technology have been harassed at work or in training, which was followed by a statement of nontolerance made by the National Academies of Science, Engineering and Medicine.¹⁷⁵

Although information on gender transformation around the roles of men and gender minorities is scarce, we use evidence from women's collectivisation to illustrate how localised community organising can also disrupt systems. Women's empowerment collectives of different types have increasingly gained ground and now include millions of members.¹⁷⁵ Using participatory action approaches, they are enacting change for women in the spheres of financial inclusion, livelihoods,¹⁷⁶⁻¹⁷⁸ and political participation.¹⁷⁵ For example, women's self-help groups are one large and growing platform meant to empower poor and marginalised women in India.¹⁷⁹ The National Rural Livelihood Mission alone has more than 56 million self-help group members working for socioeconomic transformation¹⁸⁰ and activism.¹⁸¹⁻¹⁸⁴ Research shows that self-help groups combining health education with community mobilisation had significant effects on neonatal and maternal mortality,^{164,185} and gains were even stronger among more marginalised women.

Research has not examined how community mobilisation affects women's interactions with health providers or whether women's interactions could shape the health system itself. Using data from Bihar, India, we did new analyses to understand the effects of self-help groups, with and without focus on mobilisation for health care, on women's interactions with health providers and responses from providers to these women. We explored whether women from these collectives could inform health worker interactions and response. The results indicate that women from self-help groups with a focus on health, relative to those in control areas, were significantly more likely to increase self-advocacy with health-care providers and exhibit confident navigation of health services from baseline to follow-up (figure 5). Women from intervention areas relative to control group areas were also significantly more likely to report respectful and responsive care from the accredited social health activists. These women also showed increased service use. These findings support the hypothesis that community mobilisation processes can change the way women interact with the health system, directly challenge restrictive gender norms and the health system hierarchy, and in turn bring positive changes and deeper accountability in the health system at the local level.

These three analyses (figures 3-5) highlight that disruption is possible and illustrate that gender transformative approaches can strengthen health systems and improve care (figure 6).

Our global analysis of the physician workforce highlights that gender equality in the larger social environment can prevent and reduce gender inequalities in the workforce. Our mixed methods analysis with frontline workers in India shows that respect and value for work is needed from family, community, and institution to support productivity. These findings suggest that support is necessary to maintain workers' performance and health impact even in settings affected by gender inequalities. Social movements and women's empowerment collectives offer an external accountability structure, pushing for it to provide universal and equitable care.

We recognise that our disruptions research draws heavily from gender inequalities disadvantaging women, despite our previously noted recognition of the need for greater focus on the ways that gender norms and inequalities can impede the health of women, men, and sexual and gender minorities. Inadequate, and inadequately diverse, data speaks to the need for better measures and more gender norm-focused data, as noted in other papers in

this Series.^{1,3} Nonetheless, these findings suggest that gender transformative approaches (within health systems and in partnership with the communities they serve) can affect gender inequalities and health outcomes.

Discussion

It has been 40 years since the Alma Ata Declaration committed governments to provide primary health services for all, enshrined the importance of individual and community participation in health care, underscored the political, social, and economic causes of ill-health, and reaffirmed health as a human right. Although we have made progress, the aims of the Declaration have yet to be met. How can we ensure that new international commitments rooted in the SDGs and universal health coverage do not similarly fall short?

Our analysis shows that restrictive gender norms manifest in the health system and reflect and reinforce gender inequalities, compromising the health and wellbeing of patients and providers. It also shows that health systems can be disrupted, using gender transformative approaches, operating outside (social and economic policies supportive of gender equality), within (support, value, and safety for workers), and with (social or community accountability) health systems, to alter restrictive gender norms and reduce gender inequalities.

This evidence suggests that we need to move from a consideration of gender as something that can be easily patched upon existing health systems, towards a recognition that gender inequality fundamentally predetermines and shapes health systems and outcomes in ways that require fundamental changes.⁶ We need to rethink our models, which at their core reflect our collective aspirations of what health systems are meant to deliver. We need to build our aspirations around gender equality, from policy to administration and to service provision, and evaluate and assess progress against these values. Drawing from research in this Series paper, and building on previous work,^{186,187} we put forward a set of aspirations for gender equitable health systems that: (1) reflect and reinforce a gender equitable society; (2) address gender norms and root causes of inequalities across the life course; (3) provide equal opportunity for health-care professionals of all genders to enter, thrive, and advance within health systems; (4) ensure equal access and usage of high-quality health services by people of all genders, unimpeded by financial, social, and geographic barriers; and (5) commit to being held accountable to address gender inequalities at all levels.

Health systems must be held accountable to address gender inequalities and restrictive gender norms. Given the persistence of restrictive gender norms within systems, even with progressive policies and programmes, innovative approaches are needed. Social forces and change outside of health systems hold potential. Growing waves of collective action, often connected in new ways by social media, show promise in diverse settings in improving equitable access to quality care, services, and accountability. Given the strength of discrimination and restrictive norms, social movements are needed to bring about equality and change. The global health community needs to see itself as an integral part of this broader social reform. Reform efforts will not be comfortable. It will entail calling out power and hierarchy and the privileges they bring. We suggest, however, that the question is

not whether these steps should be taken but when? The call for change in systems and hierarchies upholding inequitable gender norms and outcomes is growing stronger. The global health community can passively resist or assume a leadership role in overcoming gender inequitable norms and, in doing so, deliver on the aspirations of the SDGs and universal health coverage.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

We gratefully acknowledge the inputs of Kristen Envarli, Holly Shakya, Natalie Wyss, Scott Blair, Bidhubhusan Mahapatra, Avishek Hazra, Arupendra Mozumdar, Dharmendra Chandurkar, Kultar Singh, Suneeta Krishnan, Sally Theobald, Linda Waldman, Sushil Baral, Kui Muraya, Chris Cartwright, Helen Elsey, and Rebecca King.

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Key messages

- Health systems reflect and reinforce the gender biases and restrictive gender norms in society, and these biases and norms undermine the functioning of health systems and compromise the safety and wellbeing of providers and the health of communities.
- Gender and social inequalities (based on class, race or ethnicity, etc) intersect and multiply these negative effects on both the health system and the communities they serve.
- Health systems can be disrupted (eg, from within, through social and economic policies, and through community accountability mechanisms) to shift gender norms and reduce inequalities.
- Gender transformative approaches can help address gender inequalities in health and health systems.
- Individuals working to change health systems should align and ally with social movements, community activism, and collective efforts for change and accountability.

Panel: Research methods**How do health systems affect gender inequalities in health?**

What are health system responses to gender inequalities in health?: We did a critical review of published literature using PubMed, Google Scholar, and Web of Science. We did not define or constrain search terms a priori; trained researchers reviewed abstracts while searching and determined which papers were of interest at the time of the search. We created annotated bibliographies on papers of interest and sorted these into subtopics identified iteratively. Expert groups discussed findings from these reviews to identify key themes of interest, and small groups did write-ups of review findings on the basis of identified subthemes. Experts reviewed all writings to ensure presented work reflected the breadth of perspectives from across contexts and disciplines.

Do health system models consider gender or gender equality and their intersection with social inequalities?: We did a systematic review of published literature in September, 2018, using PubMed, Scopus, Google Scholar, and the World Bank and the WHO websites to identify papers and reports published between Jan 1, 2000, and Sept 30, 2018. Papers were included if they provided a model of health systems, not system components or a country specific system. We concentrated on models designed for low-income and middle-income countries or with a focus on culture and health systems. After database searches, a snowballing method was used to retrieve articles from the bibliographies of papers identified in the review. All compiled papers were screened to ensure they met inclusion criteria and data were extracted to describe the components of the model and whether they addressed social and gender inequalities. Search terms can be found in the appendix.

Can gender transformative clinical interventions improve health and gender equality?: A systematic review was done by the IRIS Group in January, 2018, to identify studies published from Jan 1, 2000, to Dec 31, 2017, on evaluated gender transformative health interventions done in clinic settings or by clinical providers. Gender transformative was defined as affecting restrictive gender roles or norms, including gender-based power differentials.¹⁴ Selected papers were those written in English, French, Spanish, or Portuguese and involved controlled trial designs, either randomised (with n = 50 per group) or quasi-experimental (with n = 100 per group); showed a significant effect on health outcomes; and had a study retention rate of over 60%. Published papers were identified through EBSCO, ProQuest, Scopus, and Web of Science and for grey literature we used governmental and non-governmental project websites. IRIS Group researchers and library staff at Washington University in St Louis (MO, USA) developed search terms for this review and then tested them for accuracy and noise before full use. After these articles were reviewed and compiled, snowballing was used to identify additional studies from July 1 to Oct 31, 2018, which involved retrieving articles from the bibliographies of identified papers, review of [ClinicalTrials.org](https://www.clinicaltrials.org), and expert input. Once all articles were compiled, titles and abstracts were screened for study inclusion criteria, and relevant articles were placed into a reference manager and tagged by health issue of focus. Two senior researchers with expertise in gender and health then reviewed and

extracted data on effective interventions. Data and search terms can be found in the appendix.

How do gender inequalities manifest in the health-care workforce?

How does the health system (medical) hierarchy intersect with gender

inequalities?: A critical review of the literature was done using the same method described for the previous critical review. As noted previously, cross-national and cross-disciplinary input from our expert panel guided analysis.

How does gender in the life course affect women's training and employment

opportunities in health care?: A case study of a trained nurse in eSwatini was developed based on findings from qualitative research in HIV clinical settings and with HIV affected populations, including nurses, community health workers, and volunteers and adolescent and adult HIV patients; methods from these studies are available elsewhere.¹⁵⁻¹⁸ These stories were triangulated with national health, demographic and economic data¹⁹⁻²⁰ to accurately reflect the context of the country. The story was developed to describe the gendered aspects of health-care training and employment using a life course perspective (appendix).

How do gender blind health-care financing policies differentially affect women and

men as paid health-care providers?: We created a case study of a health policy to support and pay community health workers in Sierra Leone. In 2016, Sierra Leone established the National Community Health Policy and Programme to increase support and remuneration for community health workers,²¹ in recognition of their work through conflict and the 2014 Ebola epidemic. After policy implementation, in-depth interviews were conducted with community health workers' managers (n=16) in two districts to provide insight into how the policy affects recruitment and retention of community health workers. Data were coded and analysed using NVivo. Ministry data were also reviewed to assess demographics of community health workers following the policy and the recruitment of female community health workers (appendix).

How can we disrupt health systems in ways to eliminate and prevent gender inequalities?

Do nations with higher gender development have a higher share of female physicians per capita, and is it associated with better health outcomes?

Using sex-disaggregated health workforce data from WHO's Global Health Workforce Statistics²² and the Organisation for Economic Cooperation and Development's Health Statistics 2017,²³ we did a cross-sectional analysis to determine whether greater female representation of women physicians was associated with indicators of gender development and health indicators in 91 nations. Gender development indicators included the Social Institutions and Gender Index,²⁴ the Global Gender Gap,²⁵ and the gender gap in wage earnings.²⁶ Health indicators included maternal mortality,²⁷ infant mortality,²⁸ female and male life expectancy,²⁹ and universal health-care scores.³⁰ Country-level data and detailed methods are in the appendix.

Do frontline workers receiving more respect and support from family, community and the health system show higher productivity and health impact?: We did a mixed-

methods analysis, which involved quantitative analyses of survey data from a state-wide sample of community health workers (known as accredited social health activists) in Uttar Pradesh, India (n=1341) and their clients who gave birth in the past year (n=8319), to explore whether family support and community respect for accredited social health activists, as reported by the activist, affects productivity and health impact. Productivity was defined as household visits and earnings, as reported by activists, and health impact was defined as antenatal care and institutional delivery, as reported by clients.

We also created a Case based on findings from in-depth interviews with medical officers in charge and staff nurses from four high-performing clinics and two low-performing clinics in a single district in Uttar Pradesh to explore supervisory and support structures for nurses in these clinics (n=12). Two researchers coded and analysed detailed interview notes collected from participants and identified themes on effective and problematic supervision and support in the clinics (appendix).

Can social mobilisation, through social movements or community organising, support better quality care from health systems?: We did a two-group quasi-experimental trial that involved quantitative analyses of survey data from two repeated cross-sectional surveys done in April–June, 2013, and June–August, 2016, among women from self-help groups in India. A two-stage cluster sampling design was used to select study participants. All women aged 18–49 years in the self-help group who have given birth in 1 year before the survey were eligible. 2407 women were interviewed from 713 self-help groups in 2013 and 2970 women from 1390 groups in 2016. Three group-level process indicators were considered: whether the group interacted with the local health facility, whether the group came together to negotiate with the health centre, and whether the group came together to negotiate with the anganwadi (a form of rural care centre for children).

Three individual-level process indicators were included: whether woman negotiated with staff of the health-care centre, whether woman negotiated with frontline health workers in villages, and whether women had confidence in accessing health services from government health centres. The health system response was measured using four indicators that assessed whether accredited social health activists provided health care with respect, directed to appropriate providers, responded quickly to emergency situations, and were available when needed. The service uptake was assessed using three indicators: receipt of iron and folic acid for 100 or more days, at least one visit by a health worker within a week of delivery, and health worker accompanied women for delivery at a health facility.

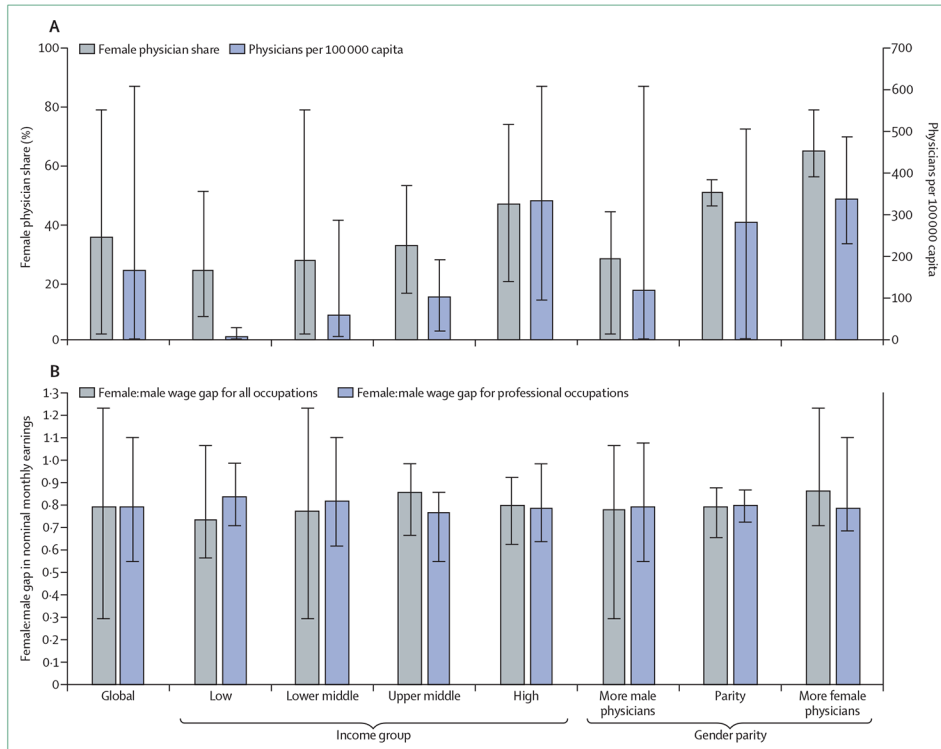


Figure 1: Global analysis of female physician share and wage gap
 (A) Distribution of female physician share and physicians per capita across categories in 91 countries. (B) Female:male wage gap across categories in 91 countries. Bars show group means and error bars indicate minimum and maximum values. Parity is defined as 45% –55% female.

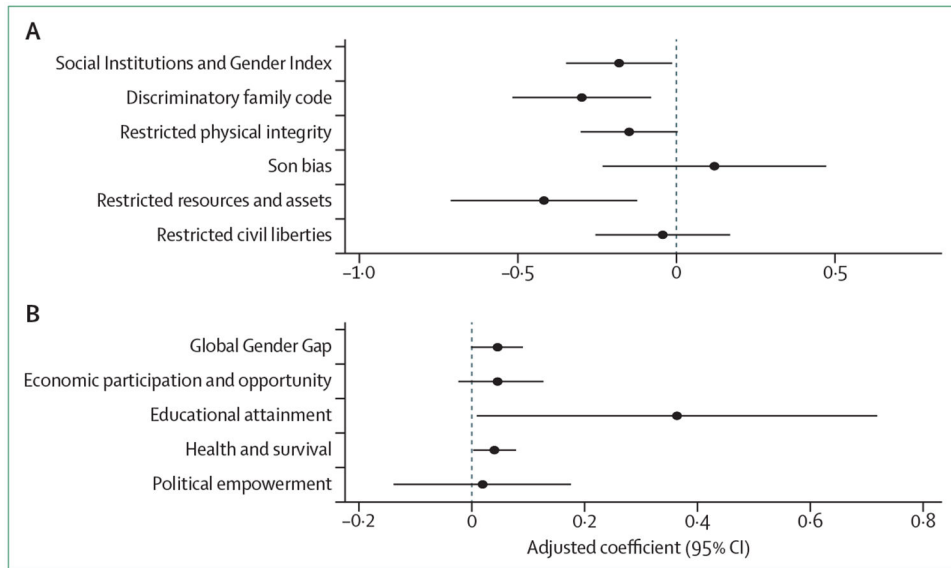


Figure 2: Global analysis of female physician share and gender equality indicators
 Association of female physician share (A) with Social Institutions and Gender Index and subindices and (B) with Global Gender Gap index and subindices. Each line represents the coefficient and 95% CI for separate fractional logit generalised linear model regressions, adjusting for gross domestic product (as a natural log) and year.

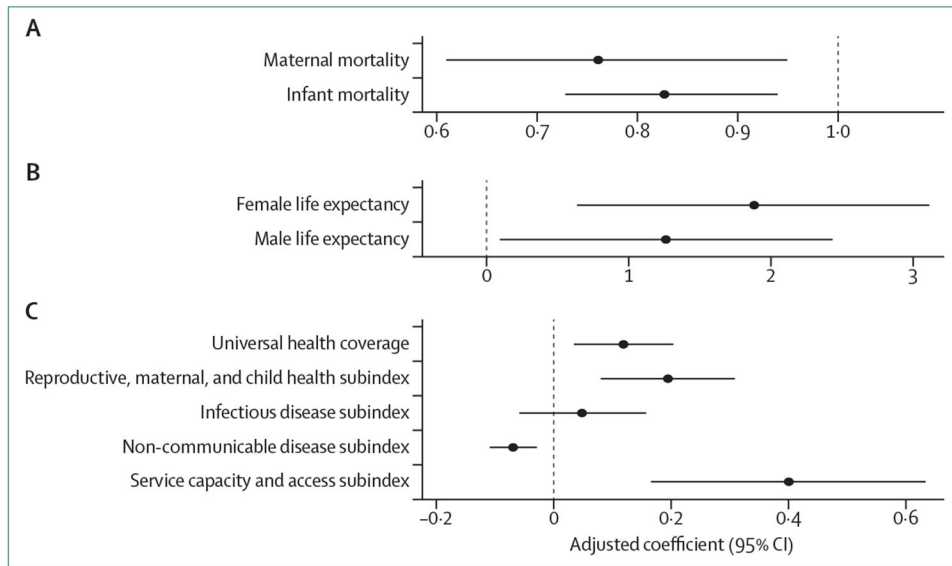


Figure 3: Global analysis of female physician share and health outcomes
 Global analysis of the association of maternal and infant mortality (A), life expectancy outcomes (B), and universal health coverage index (C) with female physician share. Each line represents the coefficient and 95% CI for separate generalised linear models with a Poisson family and log link (A), linear (B), or fractional logit (C) regressions, adjusting for gross domestic product (as a natural log) and year.

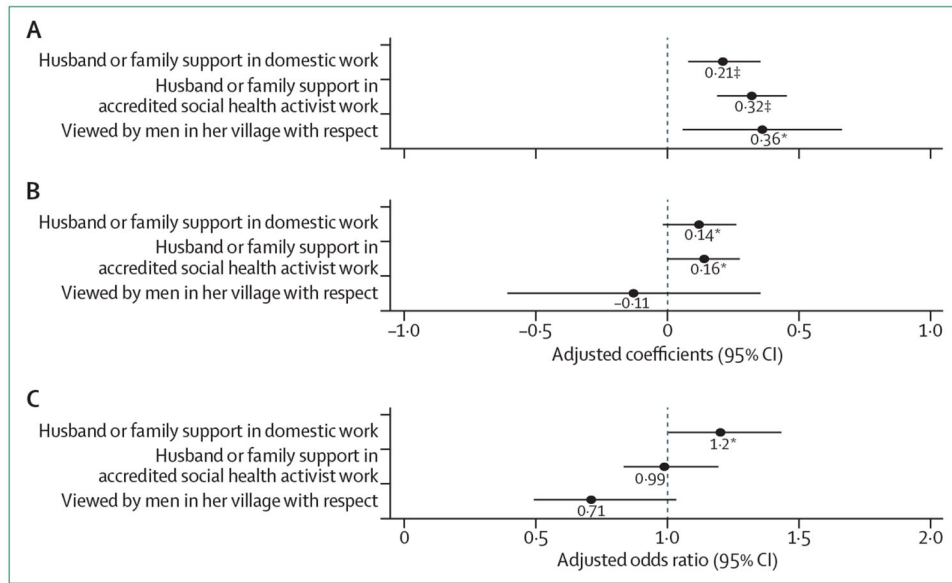


Figure 4: Associations of family and community support and respect with accredited social health activists productivity and health impact
 (A) Number of households visited. (B) Number of women accompanied to facility. (C) Percentage of women receiving minimum antenatal care. All three models were adjusted for sociodemographic covariates.

*Statistically significant at $p < 0.05$. †Statistically significant at $p < 0.01$.

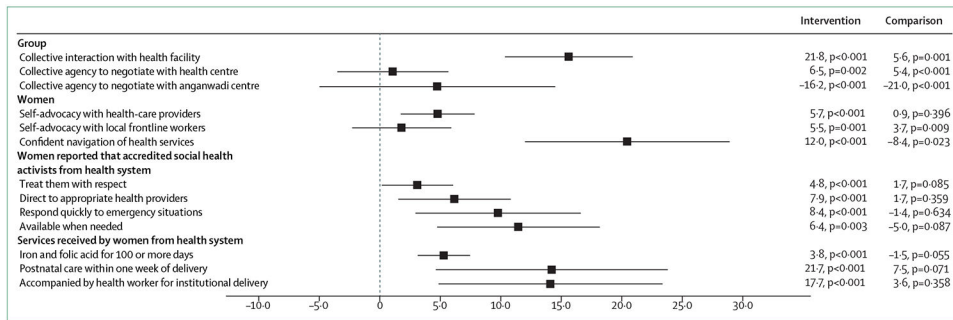


Figure 5:
Effects of self-help group-based health intervention on interactions between clients and accredited social health activists in Bihar, India

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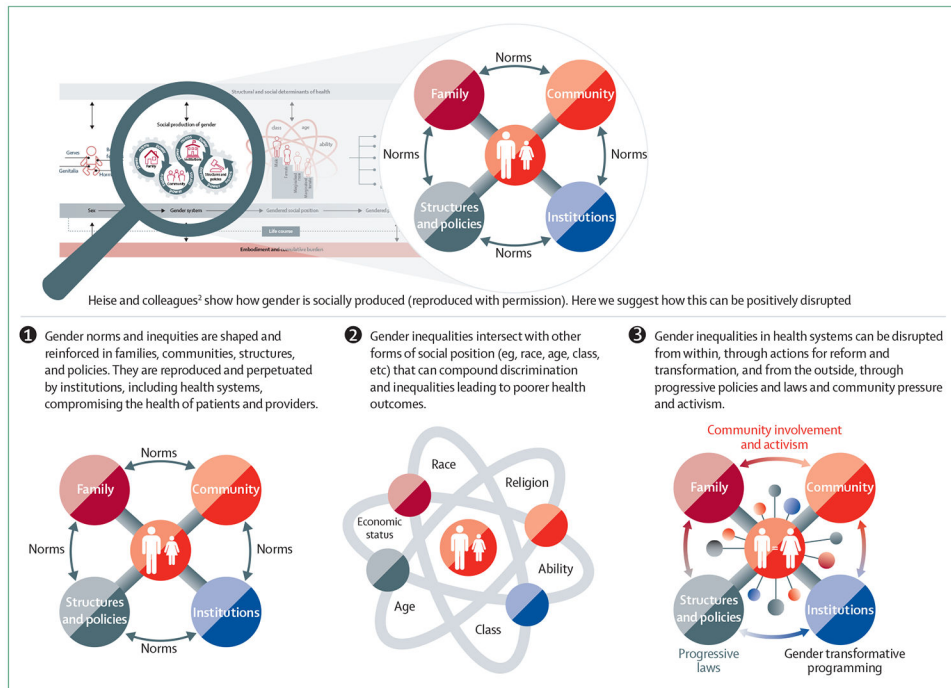


Figure 6:
How can we disrupt gender inequalities in health systems?