

Physician behavior and inequalities in access to healthcare.

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Abstract/Summary

This chapter reviews the evidence on the role of physicians in shaping inequalities in access to and utilization of healthcare. We examine three types of physician decisions that can influence inequalities in access and utilisation: location decisions, decisions to work in the public and/or private sector, and decisions or behaviours in the doctor-patient encounter. For each, we summarise the issues and empirical evidence on possible policies to help reduce inequalities in access. Future research to reduce inequalities should focus on changes to health systems that influence physician decisions, such as health insurance expansions, the public-private mix, and financial incentives, as well as physician training and polices for a more diverse physician workforce.

Introduction

To improve the health of populations, physicians need to be accessible to those with the highest need for medical care. They also have to be responsive and provide appropriate advice and treatment to patients who visit them. A key finding of many studies that measure inequalities in the utilization of health care with respect to income and health need, is that the utilisation of specialist physicians has a pro-rich distribution whilst inequalities in primary care utilization are more variable with mixed evidence of pro-poor and pro-rich distributions (Dalziel et al., 2018; Devaux, 2015; Lueckmann et al., 2021; Pulok and Hajizadeh, 2022; Pulok et al., 2020; van Doorslaer et al., 2004; van Doorslaer et al., 2006; van Doorslaer et al., 2000). This is the case across many countries and seems to be persistent over time and across study designs and datasets, with some evidence showing that pro-rich inequity may be higher if higher quality methods are used to control for and measure need (Bago d'Uva et al., 2009; Fookan and Jeet, 2022). Richer people, irrespective of age (Dalziel et al., 2018; Halldórsson et al., 2002; Pulok and Hajizadeh, 2022), receive more health care compared to poorer people with the same need. Davillas and Jones (2021) and Wouterse et al. (2023) show that such inequities may be exacerbated in times of crisis, such as pandemics.

Inequalities in utilization are associated with the generosity of health insurance coverage, size of out of pocket payments, and the extent of private provision of health care (Devaux, 2015; Kaarboe and Siciliani, 2023; Pulok et al., 2022; van Doorslaer et al., 2004). Private medical markets without public health insurance are inherently inequitable because poorer people use less health care since they have a lower ability to pay combined with higher average needs for healthcare compared to the rich. Inequalities in access to health care are reduced by public health insurance coverage that increases the demand for healthcare which in turn stimulates health workforce supply (Dillender, 2022). Within these schemes, governments can further influence the distribution of physicians and other health care resources across geography and different population groups to improve equal access for equal need (Carvalho et al., 2019).

But even in public systems with universal access and equitable geographic distribution, no out of pocket costs and a small private sector, such as Canada, the UK and Sweden, inequalities and inequities still exist (Chen et al., 2022; Cookson et al., 2016; Pulok and Hajizadeh, 2022). Part of the reason is that some population groups find it difficult to access health care for a range of reasons that can include language and cultural barriers, low health and financial literacy, as well as distance (Levesque et al., 2013). Another related reason is

that those who do access health care and have identical health conditions may be treated differently depending on their characteristics, including their socio-economic status, race or gender. These disparities may be appropriate if they reflect differences in patients' needs or preferences (vertical equity) but they can drive inequalities (horizontal inequity) if they are caused by physician's preferences and beliefs whilst patients' needs are the same.

By directly or indirectly choosing which patients to see and treat through location, specialty, and job choices, and by deciding how to interact with these patients and what treatments to recommend physicians can influence inequalities of access directly or indirectly. The aim of this chapter is to summarise evidence on three main types of physician decisions that directly influence inequalities in access to health care: physician decisions on geographic location, working in the private sector, and clinical decisions. For each type of decision, we first review existing evidence on the link between physician's choices and inequalities in access and then summarise the evidence on the effectiveness of policies to reduce inequalities for each type of decision.

Reducing inequalities through influencing physician's location choices and their geographic distribution

A first decision made by physicians that can impact inequalities of access to care is where they decide to work. The lack of health professionals in rural areas has been a key policy issue for many years across many countries. Depending on market conditions, physicians in most countries can choose to practice in any geographic location. Because different types of patients live in different locations, where physicians choose to work influences access to care for certain population groups. The decision of the geographic location in which to work is complex. When they choose a place to work, physicians indirectly choose which types of patients to treat (e.g. in urban or rural areas, low or high socio-economic status areas) and trade this off against other job and location characteristics (Mandeville et al., 2014; Scott et al., 2013). It may take more altruistic values to accept a job in an isolated area, where providers might become the main point of access to care, but at the expense of personal or professional costs (Lagarde and Blaauw, 2014).

There is evidence from many countries that doctors are more concentrated in affluent geographic areas and that this is persistent over time (Atalay et al., 2023; McIsaac et al., 2015; Munga and Maestad, 2009; Sousa et al., 2012; Wiseman et al., 2017; Xue et al., 2019). Part of this reflects an urban-rural difference because of the historical distribution and location of large teaching hospitals in major capital cities, where doctors train and work. But even within major cities doctors tend to locate in more affluent areas. Primary care physicians are usually more evenly distributed across geography relative to physicians in other hospital-based specialties, though this is not always the case in low and middle income countries. It can be efficient for specialists to concentrate in hospitals and in metropolitan areas given the high fixed costs of more specialised inpatient care, yet populations living in metropolitan areas are often more affluent and healthier than those living on the edge of large cities and in rural areas. This places higher travel and time costs on patients who may also be more in need of health care.

There has historically been little rigorous evaluation of the effectiveness of policies to improve medical workforce distribution (Buykx et al., 2010; Grobler et al., 2015; Koebisch et al., 2020; Russell et al., 2021). Policies generally include regulation, training, and the use of incentives. Regulation can include restricting the entry of physicians to geographical markets. This reduces the physicians' choice set of potential work locations. Some countries such as Australia require international medical graduates (IMGs) to practise in rural areas up to 10 years after they first arrive in Australia, with IMGs comprising 39.6% of doctors in non-metropolitan areas in 2020. In the UK until the early 2000s, the Medical Practices Committee decided on whether GPs could work in a certain area or not based on estimates of local shortages and surpluses. Other countries such as South Africa or Senegal, require medical graduates to work for a short period of time in under-served areas or in the public sector before they can qualify as medical doctors (Reid et al., 2018). In addition, there are numerous examples of 'bonded' or 'return of service' schemes where publicly funded medical training scholarships require physicians to work in areas of need or in the public sector for a fixed time period after training, or where assistance is provided with medical school debt repayment (Barnighausen and Bloom, 2009; Frehywot et al., 2010).

Other policies include increasing the proportion of time spent training in areas of need, which can be mandated, during medical school, post-graduate training, or during vocational (specialty) training. This sometimes involves the funding of accredited training positions in

these areas which also require adequate supervision. Medical schools may be established in non-metropolitan areas and away from major teaching hospitals (Playford et al., 2014). There are also policies that require universities to select a certain proportion of students who grew up in rural areas or areas of need, or affirmative action policies that involve admission quotas of students from specific ethnic backgrounds or women (McGrail et al., 2023a). However, there is no causal evidence for the effectiveness of these policies though associations are large. In Australia, GPs who spent more than six years growing up in a non-metropolitan area were 2.3 times more likely to end up working in a rural area (McGrail et al., 2011) with stronger associations for those of rural origin and who were trained in a rural area (McGrail et al., 2016). The length of time spent training in a rural area is also associated with staying there longer (McGrail et al., 2023b).

Specialist outreach, where physicians travel to areas of need is a further policy commonly used (O'Sullivan et al., 2014). A key issue, where there is much less evidence, is the potential role of telehealth in rural areas to improve access to physicians who remain located in metropolitan areas. Telehealth was greatly expanded during the COVID-19 pandemic. The scope for reductions in costs (for patients and the health system) is significant though there remain doubts about the quality of care provided by telehealth compared to face to face consultations especially where care is provided by phone rather than video (Carrillo de Albornoz et al., 2022; Snoswell et al., 2021).

A final set of policies are financial and non-financial incentives to attract and retain physicians in areas of need. In addition to cash payments and loadings on existing regular payments, this might involve the provision of subsidies for housing or schooling. Capitation payments which are risk adjusted to compensate for the higher costs of treating higher need populations can change the distribution of primary care practices towards higher need areas (Anell et al., 2018). Other studies have found less of an impact for financial incentives. In a discrete choice experiment examining preferences for rural location, for those in metropolitan areas offered jobs in rural areas between 73% and 91% (depending on the characteristics of the rural job) would prefer to stay in their current job (Scott et al., 2013). For the small proportion who were prepared to move, they would need to be compensated between 10.3% and 130% of their annual income, with 130% representing a job in a rural area with the least valued job characteristics. These results suggest that financial incentives would work for only a small proportion of GPs and would need to be much higher than currently offered to

persuade them to move to rural areas with poor job characteristics. The relative ineffectiveness of financial incentives is supported other studies in Peru, Norway, Australia and the U.S. (Brunt, 2023; Holte et al., 2015; McIsaac et al., 2019; Miranda et al., 2012).

Two studies evaluated a change to an incentive program in Australia when the eligibility of geographic areas for incentive payments changed because of a change in the way rurality was measured. This resulted in around 750 locations, mainly outside the edges of major cities, suddenly becoming eligible for incentives and increased the incomes of GPs in these areas by an average of 3.8%. Yong et al. (2018) found no impact on entries or exits of GPs overall, though there was some evidence of an increase in entries for newly qualified GPs who are more mobile than more established GPs. A second study examined the effect of this same policy change on waiting times for non-urgent GP appointments and found some evidence that the number of GPs in newly eligible practices increased, and this did not lead to lower waiting times for existing patients, but did lead to weak evidence of lower waiting times for new patients (Swami and Scott, 2021).

Public-private provision and inequalities

In mixed health care systems, doctors make another potentially consequential decision for inequalities when they choose to work in the private sector rather than the public sector, or when they choose to split their time between both sectors through dual practice. These choices have indirect implications for inequalities to access because of the differences in the type of patients using the two sectors on the one hand, and the potential detrimental consequences for the public sector on the other hand.

Across many countries, those who can afford private healthcare are typically socioeconomically advantaged (Fiebig et al., 2021; Pulok et al., 2022). This is because in mixed health care systems private healthcare is typically not covered by a form of universal health insurance, so only the more affluent populations who can afford to pay out-of-pocket or to pay for private health insurance (Kaestner and Lubotsky, 2016) can consult private doctors. In lower income settings, qualified physicians often work in expensive private facilities only affordable to wealthier populations, while poorer populations who use private services will typically consult lower-skilled or informal providers (Coveney et al., 2023). If a majority of doctors prefer to opt for private sector jobs, inequalities might increase between public and private sectors in terms of the quality of care offered as well as inequalities in access. South

Africa is an example of a mixed system characterised by stark inequalities in the distribution of physicians, as about 80% of them work in the private sector. Since less than 20% of the population can afford a private medical insurance, the majority of South Africans rely on free public facilities where quality of care is often lower due to a lack of doctors. Furthermore, in many settings, private facilities that employ many doctors, such as hospitals and clinics, also tend to be disproportionately located in urban areas. As a result, the private sector is disproportionately used by urban populations, leaving more limited options to rural populations (Grépin, 2017).

Another source of inequality engrained in mixed health systems comes from the fact that physicians in the private sector may have discretion over which patients to treat. This “cream-skimming” problem is rooted in the profit incentives that typically drive the private sector, which may lead providers to select less complex, lower cost and so more profitable patients (Eggleston, 2000; Ellis, 2000). For example, in the U.S. physicians are able to select which patients to treat depending on their insurer and the relative size of payments they offer, and this can drive inequalities in access and utilization if lower payments are offered by public insurance programs such as Medicare and Medicaid relative to private insurers (Brunt and Jensen, 2014). An audit study of private practices in Germany found that privately insured patients, who are more profitable, are more likely to be offered an appointment compared to publicly insured individuals (Werbeck et al., 2021). Conditional on being offered an appointment, the waiting time was twice as long for publicly insured. By contrast, in universal health insurance systems, everyone is covered and providers are remunerated according to the type of care provided, promoting equal access for equal need.

Across the world, physicians holding a public sector job often get to make another type of consequential decision: how much time they spend practicing in their public job or in private practice. Such ‘dual practice’ is widespread across the world. In many health systems, it is legal and regulated, but dual practice also occurs when it is illegal and unregulated (McPake et al., 2016). In the UK, where health care is largely delivered by a free universal public healthcare system, over 60% of hospital doctors engage in private practice alongside their NHS job (Humphrey and Russell, 2004). The literature highlights a series of reasons explaining why healthcare professionals engage in dual practice, but the pursuit of supplementary income stands out as the primary motivator (García-Prado and González, 2011a; Hipgrave and Hort,

2014). Differences in hourly earnings between the sectors can influence the share of hours in the private sector (Cheng et al., 2018; Saether, 2005). In settings where salaries in the public sector are particularly low, this is sometimes seen as a necessary coping strategy for staff (Ferrinho et al., 2004). Beyond monetary considerations, physicians may seek private practice opportunities to enhance their skills or broaden their network (García-Prado and González, 2011a; Hipgrave and Hort, 2014). Other considerations such as whether their work involves being on-call, opportunities for research, or the amount of administrative burden, may also play a role (Scott et al., 2020).

Similar to their choice to take up a job in the private vs. the public sector, engaging in dual practice may exacerbate inequalities in different ways. Because it creates competition for physicians' time, dual practice reduces resources available to public sector patients (moonlighting physicians' time). This compromises access to services due to greater staff absenteeism and lower availability of physicians for patients in the public sector (Chaudhury et al., 2006), as well as longer waiting times for public sector treatment if private patients are prioritized (Fun et al., 2021; Sharma et al., 2013; Walpole, 2019). In some settings, there are also concerns that dual practitioners may voluntarily decide to lower the quality of services in their public practice to divert patients to their private practice (Jan et al., 2005). Overall, this debate rests mostly on theoretical arguments supported by very limited empirical evidence. Other scholars highlight potential benefits of dual practice. When it is introduced within public sector facilities, it may facilitate retention of staff and prevent worse shortages in the public sector (García-Prado and González, 2011b). By transferring less complicated cases to the private sector, dual practice can free more resources for high-risk patients who may then access better care in the public sector (Barros and Olivella, 2005).

Broadly speaking, there are two types of interventions that have been proposed to tackle problems linked to dual practice: providing financial incentives and regulation. The first category of strategies seeks to limit the willingness of providers to undertake dual practice activities by making public sector jobs more financially attractive. That is done by raising public sector salaries or providing incentives for exclusive public service (such as salary supplements or promotions). The second category of interventions aims to regulate dual practice to limit its negative effects for public patients. Putting a limit to private sector earnings, a strategy adopted by the UK and France, is one indirect way of restricting moonlighting.

Paradoxically, another way to control dual practice more carefully is to allow public hospitals to keep a portion of their beds for private patients, such as in Australia. At the extreme end of regulatory approaches is the complete prohibition of dual practice. Research on the effects of dual practice and strategies to influence its prevalence is largely theoretical (Biglaiser and Albert Ma, 2007; Brekke and Sørsgard, 2007; González, 2004; González and Macho-Stadler, 2013), with little to no rigorous empirical evidence (Kiwanuka et al., 2011).

Overall, when choosing to work in the public or private sector, physicians make trade-off between different working conditions (salary, autonomy, working conditions etc), but also between different types of patients. Due to the characteristics of the private sector, when they choose to work in the private sector, physicians often choose to treat richer and more advantaged patients who are on average in less need of health care. The relative size of the public and private sector, which depends on the evolution of the structure of the health system, is itself critical in determining the choices available for physicians and the associated degree of inequality in utilization.

Physician discrimination and inequalities in healthcare

The last way through which providers can fuel inequalities in healthcare relate to the behaviours and decisions they adopt during clinical encounters. The doctor-patient relationship relies on effective two-way transfer of information relevant to diagnosis and treatment decisions. Unless treatment variations reflect patients' assessed need for medical care and their preferences, inequalities may emerge, or be exacerbated, if providers treat differently patients with similar health needs. This issue largely falls under what economists call discrimination, which is the differential treatment of otherwise identical individuals from different groups defined by particular characteristics (i.e. race, gender, etc.). Discrimination is traditionally categorized into two types: "taste-based" and "statistical" discrimination (Becker, 1957). In the healthcare context, taste-based discrimination corresponds to the notion that providers may treat patients from a certain group differently because they derive disutility from interacting with them. Meanwhile, statistical discrimination is closer to the notion of bias – implicit or explicit – whereby providers may treat certain patients differently if they rely on conditional probability assumptions about an individual's health (needs or preferences) based on group-level characteristics, such as race or gender.

Physicians are very different to the general population of patients in terms of their socio-economic status and personality (Ammi et al., 2023). Physicians are also heterogeneous in the distribution of personality traits recognised as important for effective doctor-patient communication, such as empathy and conscientiousness, as well as in altruism. When assessing a patient's health care needs and recommending diagnosis and treatment options, differences in the characteristics between physicians and their patients should not matter.

However, there is much research which has studied physicians' implicit bias in relation to race/ethnicity, and to a lesser extent gender, socio-economic status and other patient traits such as obesity (Chapman et al., 2013; FitzGerald and Hurst, 2017; Hall et al., 2015; Phelan et al., 2014; Scott et al., 1996; Zestcott et al., 2016). This literature suggests that healthcare professionals in various settings exhibit similar levels of implicit bias than the general population. In turn, there are two main pathways through which such biases can result in actual disparities in patient care: communication (biases may alter how providers communicate or behave, leading to worse experiences of care for stigmatized groups, who may distrust physicians, reduce or delay access to care) and clinical decisions (biases may affect clinical judgement, leading to recommending different treatment options to patients from different population groups, despite similar health needs).

Evidence mostly from the US suggests that white patients tend to receive better communication, more information, and be more involved in decision-making than black patients (Shen et al., 2018). Similarly, several studies have found that, compared to more affluent patients, physicians communicate with patients from disadvantaged backgrounds in a more directive and less participatory style, providing significantly less information and less socio-emotional support (Willems et al., 2005). There is also evidence that communication towards obese patients is worse, with physicians show less emotional support than they do for normal weight patients (Gudzune et al., 2013). Discriminatory attitudes or communication by providers may have downstream consequences contributing to worsen health inequalities. For example, across a range of countries, such as New Zealand (Harris et al., 2012), the US (Lee et al., 2009) or Sweden (Wamala et al., 2007), researchers have documented associations between minority groups' experience of racial discrimination within the healthcare setting and lower rates of healthcare use.

Causal evidence is however hard to establish, although a recent field experiment in the US showed that black patients were more likely to undertake preventive tests if they were randomly allocated to be seen by black doctors (Alsan et al., 2019). A study from Denmark exploited the closure of health clinics and found that mortality rates were lower for patients who saw physicians with a similar low socio-economic status background. No mortality differences were found for patients with a similarly high socio-economic status background to physicians (Kristiansen and Sheng, 2022). A study from Sweden examined whether there is a physician in the family, where there are no differences in socio-economic status between the physician and their patient family member, and found that family members had higher health status over their lifetime (Chen et al., 2022).

Studies looking at differences in treatment provided despite similar health needs may emerge from implicit or explicit bias towards certain population groups. Many studies of discrimination in healthcare treatment have focused on the field of pain management. This emphasis arises from the inherent subjectivity of pain, which provides ample opportunities for interpretation and bias to manifest. Several studies have reported that physicians, including female ones, are at risk of under-estimating the pain reported by women, with gender stereotypes about “brave” men and “emotional” women permeating doctors’ views of patients’ reporting of symptoms (Samulowitz et al., 2018). As a result, female patients were more likely to receive less and less effective pain relief and more likely to be referred to mental health care (Green et al., 2003; Hirsh et al., 2013; Racine et al., 2014). Similarly, many studies in the US show that, relative to white patients, black patients (including children) are less likely to be given pain medications and, if given any, they receive lower quantities (Cintron and Morrison, 2006; Goyal et al., 2015).

In this setting, there is a growing recognition that, together with structural racism, physicians’ racial bias may partly contribute to such disparities in treatment. For example, a study found that half of white medical students and residents wrongly believed the notion, rooted in historical explicit racial bias and prejudice, that there are intrinsic biological differences between white and black people making the latter less sensitive to pain (Hoffman et al., 2016). The study then showed how such beliefs led to lower pain ratings and less appropriate treatment recommendations for black people compared to white people. Research in other clinical areas have typically used hypothetical vignettes presenting patients with randomly allocated features. Examples include studies showing discriminatory treatment against foreign

nationals in Switzerland in primary care (Drewniak et al., 2016), lower rates of correct diagnosis of diabetes for ethnic minorities in the US and worse management for patients from lower socio-economic status (McKinlay et al., 2013), and lower referral of female patients for appropriate treatment for osteoarthritis (Borkhoff et al., 2008).

Whilst the role of providers' biases in clinical decision-making is not refutable, empirical studies looking at discrimination in the healthcare context have struggled to overcome several methodological challenges to measure its causal impact. Because a number of outcomes of interest (e.g. quality of care or communication provided to patients, providers' beliefs and implicit bias) are hard to observe or quantify, researchers have used approaches that may suffer from hypothetical bias (administration of hypothetical vignettes of patients' cases), self-reporting bias (patients from different population groups may have internalized biases or stereotypes in a way that influence their perceptions), or measurement error (implicit association tests). Moreover, studies looking at treatment choices can seldom disentangle physician's decisions or preferences from patients' preferences. Where patients have a choice of physician patients may prefer physicians with similar characteristics to themselves, such as gender (Godager, 2012). Greenwood et al. (2020) found that newborn-physician racial concordance, where the newborn and physician are the same race, is associated with a significant improvement in mortality for black infants. However, this may reflect patient's choice of physician.

To overcome some of these problems, a few studies in low- and middle-income countries have used the audit study approach typically adopted in the economics literature (Bertrand and Duflo, 2017), sending incognito "standardised" patients presenting with the same attitude and symptoms, and exogenously varying a personal characteristic that may drive discrimination. Despite concerns over discriminatory behaviour by physicians, these studies found no significant differences in the treatment offered to women and men presenting with tuberculosis in India (Daniels et al., 2019), and no difference in the advice provided to women from minority ethnic groups in Peru (Planas et al., 2015).

Several strategies have been introduced to reduce physicians' biases and potential discriminatory behaviour in healthcare, including training, standardised protocols and technological tools, and interventions aiming to increase the diversity of the physician

workforce. These approaches aim to address either or both individual and systemic factors that contribute to disparities in health outcomes.

To reduce individual physicians' implicit biases towards various groups, healthcare organizations and medical education institutions have been developing training programs focusing on recognizing implicit biases and providing strategies to reduce how implicit biases influence behaviour or judgment. It appears desirable to integrate such training modules early on during medical training, as evidence indicates that implicit prejudice and bias may increase during medical studies (Rubineau and Kang, 2011). There is some evidence that a variety of training can reduce implicit bias, at least in the short to medium term (Devine et al., 2012; Lai et al., 2014; Stone et al., 2020), though effectiveness often seems to fade quickly (Lai et al., 2016). There is also very limited work examining whether a reduction in implicit bias observed after training translates into different attitudes or behaviors of physicians, and ultimately better outcomes for stigmatized groups (Mavis et al., 2022).

Another approach to reduce the influence of physicians' biases in clinical judgment has been to develop and implement decision support tools that standardise treatment protocols, with a view to 'purge' the intuitive component in physicians' medical judgment in favour of a more normative approach. Advances in artificial intelligence in particular offer promising solutions. A recent study looking at pain management shows how algorithmic approaches based on machine learning could redress inequalities in treatment (Pierson et al., 2021). Because algorithmic predictions were based on a racially and socioeconomically diverse training set, they were better able to measure the severity of a clinical condition (osteoarthritis) than human physicians, leading to more accurate prediction of patients' experienced pain, which could potentially reduce inequalities in access to treatment. However, clinical decision support tools may also perpetuate inequalities if they are not well calibrated. A recent study identified how an algorithm predicting clinical risk based on past health costs would conclude that white patients were at higher risk than black patients with similar health profiles, leading to inequalities to referral for specialist treatment (Obermeyer et al., 2019). This echoes research that has flagged how decision-support tools and clinical protocols may have to be thoroughly reviewed for any particular adjustment based on inaccurate beliefs about physiological differences that perpetuate inequalities and bias in health care (Eneanya et al., 2019; Vyas et al., 2020).

Finally, many scholars have been calling for a more structural approach to reducing unequal treatment of patients from different population groups by promoting diversity within the medical workforce. A more diverse health workforce would improve physicians' cultural competence and communication skills, and ensure that the needs of patients from different backgrounds can be heard. The field experiment implemented by Alsan et al. (2019) showed how African American male patients received by black doctors were more likely to agree to take up preventive tests due to better communication and trust. This finding suggests that increasing diversity in the American medical workforce could substantially reduce differences in cardio-vascular mortality between black and white population groups. Increasing diversity in physicians can be achieved through targeted recruitment efforts, mentorship programs, as well as support for underrepresented groups in healthcare professions, although there is limited evidence about the impact of such interventions.

Conclusions

This review has focused on the role of physicians in reducing inequalities and inequity in health care. There is consistent evidence across many countries and settings of a pro-rich distribution of specialist health care, but more mixed evidence for primary care physicians. Though we identify a range of potential policy interventions to influence physicians location choices, public-private mix of work, and decisions made in the doctor patient relationship to reduce discrimination, there is currently little evidence about the impact or cost-effectiveness of these policy interventions. Although individual choices of physicians are important, in many settings, the issues we underlined are often the legacy of how health systems have evolved and are organized in terms of the extent of health insurance coverage, the role of the private sector and the type of remuneration introduced. However, even with universal coverage and a small private sector with minimal out-of-pocket costs, discrimination and unconscious bias can exist that could be addressed in physician training programs, policies promoting informed patient choice of physician, as well as affirmative action to ensure a more diverse physician workforce. Finally, research measuring changes in inequalities over time is essential to gauge whether such policies are effective.

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