Valuing Diversity and Inclusion in Healthcare: Pathways to Equip Workforce

Jiban Khuntia, Xue Ning, Wayne Cascio, Rulon Stacey

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Abstract

Background: The COVID-19 pandemic, with all its virus variants, remains a serious situation. Health systems across the United States are trying their best to respond. The healthcare workforce remains relatively homogenous, even though they are caring for a highly diverse array of patients (6-12). It is a perennial problem in the US healthcare workforce that has only been accentuated during the COVID-19 pandemic. Medical workers should reflect the variety of patients they care for and strive to understand their mindsets within the larger contexts of culture, gender, sexual orientation, religious beliefs, and socioeconomic realities. Along with talent and skills, diversity and inclusion (D&I) are essential for maintaining a workforce that can treat the myriad needs and populations that health systems serve. Developing hiring strategies in a post-COVID-19 "new normal" that will help achieve greater workforce diversity remains a challenge for health system leaders.

Objective: Our primary objectives are (1) to explore the characteristics and perceived benefits of US health systems that value D&I; (2) to examine the influence of a workforce strategy designed to balance talent and D&I; and (3) to explore three pathways to better equip workforces and their relative influences on business- and service-oriented benefits: (a) improving D&I among existing employees (IMPROVE), (b) using multiple channels to find and recruit a workforce (RECRUIT), and (c) collaborating with universities to find new talent and establish plans to train students (COLLABORATE).

Methods: During February–March 2021, we surveyed 625 health system chief executive officers, in the United States, 135 (22%) of whom responded. We assessed workforce talent and diversity-relevant factors. We collected secondary data from the Agency for Healthcare Research and Quality's (AHRQ) Compendium of the US. Health Systems, leading to a matched data set of 124 health systems for analysis. We first explored differences in talent and diversity benefits across the health systems. Then, we examined the relationship between IMPROVE, RECRUIT, and COLLABORATE pathways to equip the workforce.

Results: Health system characteristics, such as size, location, ownership, teaching, and revenue, have varying influences on D&I and business and service outcomes. RECRUIT has the most substantial mediating effect on diversity-enabled business- and service-oriented outcomes of the three pathways. This is also true of talent-based workforce acquisitions.

Conclusions: Diversity and talent plans can be aligned to realize multiple desired benefits for health systems. However, a one-size-fits-all approach is not a viable strategy for improving D&I. Health systems need to follow a multipronged approach based on their characteristics. To get D&I right, proactive plans and genuine efforts are essential.

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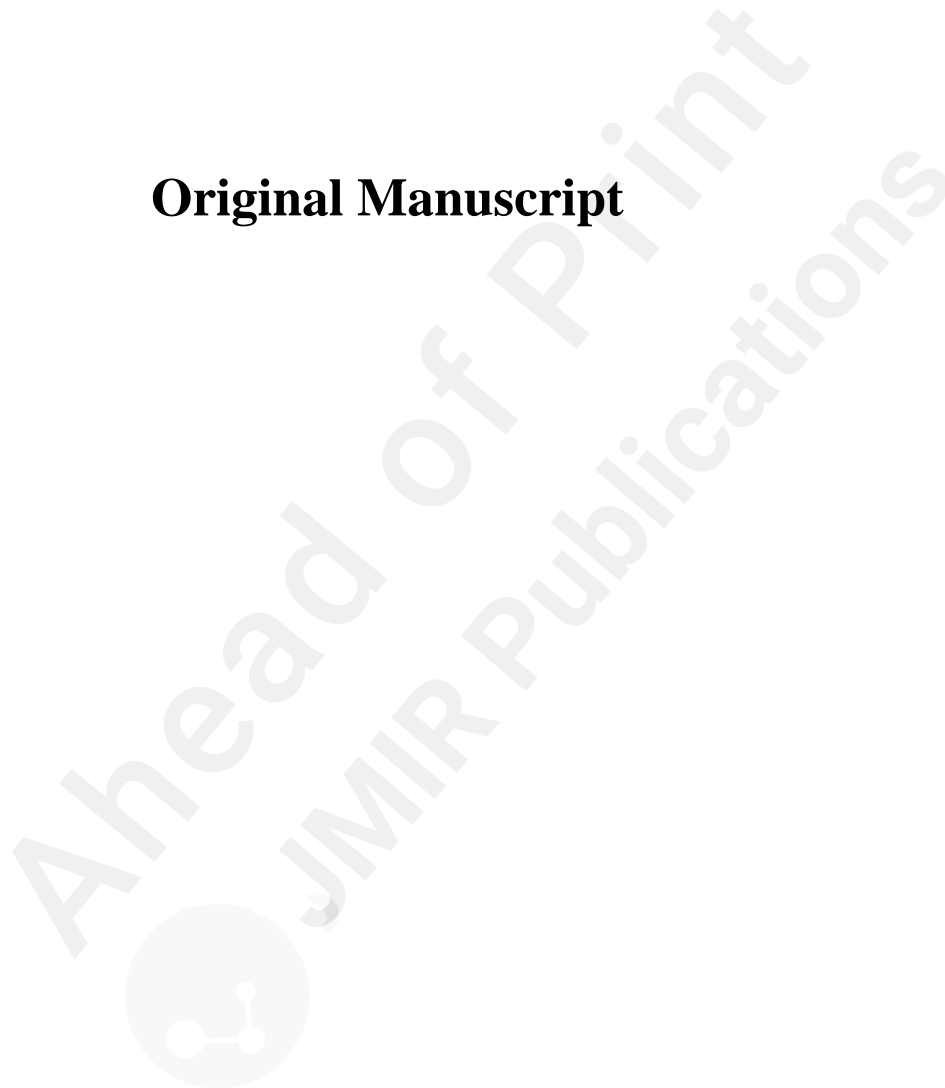
Valuing Diversity and Inclusion in Healthcare: Pathways to Equip Workforce

Abstract

Background

The COVID-19 pandemic, with all its virus variants, remains a serious situation. Health systems across the United States are trying their best to respond. On average, the healthcare workforce is relatively homogenous, even though it cares for a highly diverse array of patients. This perennial problem in the US healthcare workforce has only been accentuated during the COVID-19 pandemic. Medical workers should reflect on the variety of patients they care for and strive to understand their mindsets within the larger contexts of culture, gender, sexual orientation, religious beliefs, and socioeconomic realities. Along with talent and skills, diversity and inclusion (D&I) are essential for maintaining a workforce that can treat the myriad needs and populations that health systems serve. Developing hiring strategies that will help achieve greater workforce diversity remains a challenge for health system leaders.

Objectives

Our primary objectives are: (1) to explore the characteristics of US health systems and their associations with D&I practices and benefits; (2) to examine the associations between D&I practices and three pathways to equip workforces; and (3) to examine the associations between three pathways to better equip workforces and business and service benefits. The three pathways are: (a) improving D&I among existing employees (IMPROVE), (b) using multiple channels to find and recruit the workforce (RECRUIT), and (c) collaborating with universities to find new talent and establish plans to train students (COLLABORATE).

Methods

During February–March 2021, 625 health systems in the United States were surveyed with the help of a consultant, 135 (22%) of whom responded. We assessed workforce talent- and diversity-relevant factors. We collected secondary data from the Agency for Healthcare Research and Quality's (AHRQ) Compendium of the US. Health Systems, leading to a matched data set of 124 health systems for analysis. We first explored differences in diversity practices and benefits across the health systems. Then, we examined the relationships between diversity practices, pathways, and benefits.

Results

Health system characteristics, such as size, location, ownership, teaching, and revenue, have varying associations with diversity practices and outcomes. D&I and talent strategies have different associations with three workforce pathways. Regarding the mediating effects, the improve-pathway seems to be more effective than the recruit- and collaborate- pathways, enabling the diversity strategy to prompt business or service benefits. Moreover, these pathway effects go hand-in-hand with a talent strategy, indicating that both talent and diversity strategies need to be aligned to achieve the best results for a health system.

Conclusions

Diversity and talent plans can be aligned to realize multiple desired benefits for health systems. However, a one-size-fits-all approach is not a viable strategy for improving D&I. Health systems need to follow a multipronged approach based on their characteristics. To get D&I right, proactive plans and genuine efforts are essential.

Keywords

health systems; workforce; diversity; improve; recruit; collaborate

Introduction

Health systems have been overwhelmed with COVID-19 patients [1]. Perennial shortages in the healthcare workforce have been exacerbated during the pandemic [2]. Stress, trauma, and burnout have tested the limits of health systems' existing workforces [3], and health systems lack workforces to treat the diversity of COVID-19 patients [4, 5].

In general, the workforce in medicine is relatively homogenous, though they serve diverse populations. The healthcare system faces significant challenges matching patients' beliefs, attitudes, expectations, and care customization to an appropriately diverse workforce. In 2020, the US healthcare workforce reportedly comprised more than 50% Whites, approximately 20% Asians, 7% Blacks, and less than 1% Hispanic and Native American workers [6]. Two-thirds of physicians and surgeons are Christian, 14% are Jewish, and fewer than 15% represent other religions [7]. In addition, two-thirds are male, although this is changing as more females are admitted to medical schools [8]. In addition, dropouts among medical students in the first two years are high due to socioeconomic factors [9]. Assessment of sexual and gender diversity is also problematic, as disclosures risk discrimination claims [10], although schools attract unrepresented LGBTQ applicants [11]. In general, a lack of diversity in the healthcare workforce poses challenges for caring for diverse populations of patients, leading to variable and often detrimental access and quality issues [12]. Although the value of diversity has been well established, unless health system leaders adopt explicit strategies to improve diversity and inclusion (D&I), they will not accomplish this goal. Also, it is not clear how health systems can best equip their workforces, along with best practices, to achieve a diverse workforce.

This study seeks to assess efforts to improve D&I, as reported by chief executive officers (CEOs) of health systems across the United States. We argue that in addition to the talent and skills required for effective healthcare delivery, D&I needs to be part of the strategic agenda. Without it, catering to the diverse needs of various populations will continue to present a challenge. This study explores the characteristics of US health systems and the perceived benefits of D&I. To achieve a diverse workforce in healthcare, health systems need to leverage different pathways. We examine factors that may shape those pathways to help balance talent and diversity. We also explore the associations between workforce pathways and both business and service benefits. Our approach will provide decision-makers with helpful practice and policy inputs [12, 13].

Background on HealthCare Workforce Diversity

Health disparities are not homogeneous. Segments of populations are affected differently by different diseases. Accordingly, approaches and treatments may vary across these segments and thus require customized care [13]. Therefore, it stands to reason that a lack of diversity in the healthcare system can negatively affect patients. For instance, an Indian patient with traditional ethnic or religious values or a transgender patient may have needs unique to their circumstances and worldview. A diverse workforce in health systems should respectfully and knowledgeably approach and assist all patients with an appreciation of their values and needs [12]. Professionals from different cultures and backgrounds bring unique perspectives to share with colleagues and patients alike as they strive to better understand and respond to patients' needs.

Alarmingly, when patients do not find providers, approaches, or treatments that echo or align with their beliefs, culture, or life circumstances, they are more prone to delay or avoid care. This problem is inherent in the current healthcare system. Patients from different cultures may perceive diseases and treatments differently. Greater diversity among healthcare workers will help reduce the barriers patients face when seeking care and contribute to better access and quality of care.

Prior research suggests that healthcare workforce diversity can improve creativity and decision-making while catering to multiple perspectives and contexts [14, 15]. Specific to the COVID-19 context, research suggests that diversity-oriented leadership could improve employees' knowledge-sharing professional collaborations and help reach marginalized and hard-to-reach communities [16, 17]. Immigrant and refugee professionals, for example, represent essential resources that can provide linguistic and cultural services for their communities during and after the COVID-19 pandemic [18]. Greater diversity broadens traditional boundaries to improve care and patient satisfaction and could prove helpful in managing stressful environments [4, 5].

Employee engagement is also higher in organizations with diverse workforces [19]. As the populations served by doctors are becoming increasingly diverse, doctors need to adopt a more global mindset. Ensuring a diverse student body in medical schools will help future doctors broaden their perspectives and improve their understanding of D&I. Doctors from such schools will be better equipped to provide care in diverse environments [6].

Prior Work on the Value and Benefits of D&I

Valuing D&I in the workforce goes beyond the basic requirements of skills and capabilities. Prior research suggests seven categories of diverse attitudes and perceptions: (1)diversity sensitivity, (2) integrity with a difference, (3) interaction variations, (4) valuing differences, (5) team inclusion, (6) managing conflict over differences, and (7) embedding inclusion [20]. Diversity focuses on the makeup of a population or its demographics, while inclusion encompasses involvement, engagement, and integration into organizational processes [21]. It is vital to create a supportive environment that is diverse, respectful, and inclusive [20]. Such an environment eases the expression of dissenting opinions, is open to new problem-solving approaches, encourages innovative thinking, and more effectively avoids the dangers of groupthink, thereby opening doors for innovation and creativity-based organizational culture and business performance [22]. Diverse customers are often more loyal to diverse workforces and businesses [11]. Thus, through diversity, companies create organizational capabilities beyond their collective talents and skills and can be more responsive to a comprehensive system of values and customers in a competitive marketplace [23]. To illustrate, a diverse and inclusive organization can potentially tap into the disposable income of African Americans in the United States, which reached $1.2 trillion in 2018 [24], and the buying power of Asian Americans, which topped $1 trillion in 2018 [25].

While diversity has attracted much attention in research, significant barriers and difficulties often accompany its implementation [26]. A workable approach begins with embedding inclusiveness in all aspects of an organization's culture, starting with recruiting different races, genders, sexual orientations, national origins, and religions. It also requires a conscious shift toward a culture in which policies and procedures provide opportunities for all employees to excel [27]. Diversity goes beyond the traditional "black and white" [28].

In addition to addressing observable attributes of inclusiveness, such as race, invisible attributes,

such as religion, values, and beliefs, are also important features of organizational culture to promote inclusiveness actively [29]. For instance, gender differences in the professional workforce have decreased considerably. Women now represent 47% of the US workforce and 52% of all managerial and professional positions [30]. Technology-driven, gender-fair hiring processes in many organizations have contributed to this trend [31]. In addition to hiring more women to improve diversity, there is an increasing trend of better representation among racial and ethnic minorities, immigrants, and people with disabilities in the US labor market. A 2018 study by Accenture found that the U.S. economy could grow up to $25 billion if more people with disabilities were to join the labor force [32]. US regulations also require federal contractors to hire more workers with disabilities to avoid penalties [33]. There is a myth that hiring people with disabilities will cost more, which is a concern among organizations with low revenue levels. However, research has shown that more than 30% of the accommodations for workers with disabilities do not require additional expenditures, even after purchasing assistive technologies [34, 35]. Nevertheless, valuing D&I must move beyond the surface or visible attributes to encompass different cultural and situational values and behaviors [36]. Ultimately, such efforts must become embedded within the organizations to be successful.

Firms outside of healthcare (e.g., Apple, Google, IBM) recognize the benefits of diversity [37]. Research has shown that a discriminatory work environment can hinder an organization's ability to build and equip the workforce it needs, leading to decreased productivity and performance. Conversely, proactively valuing D&I can attract the best talent and create an environment of belongingness and respect [36].

Healthcare workforce diversity needs to improve to successfully treat a greater variety of patients, from increasing care reach to improved satisfaction for racial and ethnic minority patients. Accessibility to underserved patients through a diverse workforce will bring healthcare nearer to African American, Hispanic, and Native American communities [38]. Patients treated by physicians of their own racial or ethnic background are more likely to report receiving higher-quality care [39]. Improving access, care, quality, and reach all have significant implications for the long-term success of the healthcare sector in the United States.

Pathways to Equip the Workforce: Improve, Recruit, and Collaborate

What is the starting point toward greater workforce diversity? Undoubtedly, schools and universities are the formative platforms to inculcate D&I in young minds through examples, demonstrations, and practices [6]. Diverse classrooms broaden perspectives, promote active thinking, foster intellectual engagement, develop social skills, teach empathy, and improve racial understanding, all of which are essential for embracing diversity [40]. At the same time, organizations need to put more significant pressure on the education system to drive diversity. We consider three pathways to achieve this.

First, existing employees must acquire the necessary skill sets and diversity training. Programs such as "returnships," in which experienced professionals take career breaks for training through professional and executive development programs, can help promote and equip a more diverse workforce [41].

Second, technologies have made the recruitment process more efficient. Platforms such as LinkedIn and other social media avenues have become instrumental in finding talent. While health systems rely on traditional recruitment processes, using emerging channels to discover new talent could prove helpful.

Third, reaching out to and collaborating with universities can effectively expand the talent pool to recruit. This may start at the beginning of an education cycle, continue through projects and internships, and result in hiring from the collection of students engaged with the organization through these avenues.

For large health systems with diverse customers, a diverse base of employees is required. The revenue status of a health system can change its recognition of the direct link between diversity and performance. Major teaching health systems, as knowledge-based organizations, may have more proactive organizational cultures and reputations for openness, which will help them attract talent regardless of nationality or ethnic background. Macro factors such as increased mobility due to climate change and changing economic situations portend more women, more people of color, and more immigrant workers in the United States over the next 25 years [42]. To broaden recruitment to reflect the composition of society and the spread of business operations, organizations will need more women and people from different ethnic origins. In this context, understanding what health systems are doing to diversify their workforces remains an open question. In addition, due to social-distancing policies implemented during the COVID-19 pandemic, digital transformations such as virtual teams and telehealth pose new challenges for collaboration. Diverse backgrounds among virtual collaborators, if managed well, can promote better learning to achieve more efficient outcomes [43]. Recognizing this potential will enhance remote working both during and after the COVID-19 pandemic.

The question remains as to which one or more of the three pathways mentioned above —improve, recruit, and collaborate—can effectively meet the challenges of D&I requirements. Identifying and assessing effective pathways will help instill appropriate plans in health systems. For example, explicitly valuing D&I will motivate organizations to develop long-term career plans to retain talent [44]. Organizations can better equip existing employees by developing internal training and education programs [20]. The critical element is an individual's openness to change, which can be improved through training [45]. At the same time, it is also essential to recruit new employees, as having a diversity of work experience is a helpful way to refresh organizational culture. Finally, external collaboration with strategic partners benefits allying partners' resources, including human resources [46]. This study further explores three pathways to equip the workforce better—improving, recruiting, and collaborating—and their relative associations with business and service-oriented benefits.

The pathway model has been used in previous studies on diversity [47]. A common framework is diversity practices-pathways-performance [48]. Following this framework, our study considers business and service benefits as the performance component. We examine the associations with three pathways: improving, recruiting, and collaborating. The two types of diversity practices are D&I strategy and talent strategy.

Methods

Data Collection

The effort to study the talent strategy in health systems is part of a broad project undertaken by the Health Administration Research Consortium at the Business School of the University of Colorado Denver. The idea of monitoring health systems emerged from observations and conversations with several chief executives of health systems during the COVID-19 pandemic. The objective was to collect and disseminate the insights of health systems' CEOs to help inform policymakers, practitioners, and academic stakeholders as they collaborate to create ongoing strategies to help the industry respond to this pandemic and prepare for the next crisis.

A questionnaire was developed in December 2020 to collect data from health systems. We drew the survey items from prior literature, and questions were reworded to fit the health-systems context. We sought input from knowledgeable researchers, consultants, and executives with the requisite expertise to design and evaluate the questions. It was pilot tested, revised, and finalized in January 2021 with five top executives who are part of the Health Administration Program Advisory Board.

A contact list of CEOs was compiled from 624 health systems across the United States using multiple sources, contacts, professional connections, websites, and annual reports. The survey instrument was administered using a professional online survey platform and was mapped to emails to the platform to create unique, trackable links for each health system. Email and phone solicitations were made in multiple rounds between January 25 and March 2, 2021. In addition, the authors called several CEOs and asked them to complete the survey instrument either online or in paper format. The researchers also requested CEOs who had participated in the survey to share the link with other CEO colleagues. A total of 148 responses were received, with a 24% response rate, but 13 incomplete responses could not be used, leaving 135 usable responses. We address potential non-response bias in a later section.

The 135 health systems represented in this survey varied from 1 to 18 hospitals and from 176 to 75,000 employees. The annual revenue in 2020 of the health systems ranged from $0.7 million to $14 billion. The health systems represented $300 billion in revenue and 1.1 million employees across the United States.

We then matched the survey data set with secondary data collected from the AHRQ compendium to construct a complete picture of the health systems. Our final sample included data from 124 health systems across the United States. We analyzed this combined data set, which yielded several important insights.

Variables and Measures

Table 1 describes the variables used in this study. The two constructs of health systems' workforce-strategy focus are D&I STRATEGY and TALENT STRATEGY. The two constructs of health systems' benefits are BUSINESS BENEFIT and SERVICE BENEFIT. These variables are each measured using 7-point Likert scales. We also tested the internal-consistency reliability of these multi-item variables using Cronbach's alpha. The four alpha values were close to or greater than the recommended acceptable threshold of 0.70 for exploratory research [49].

The three variables that measure the pathways to equip the workforce by health systems are IMPROVE (i.e., improve current talent), RECRUIT (i.e., recruit new talent), and COLLABORATE (i.e., collaborate with universities). This study's other independent and control variables represent several categories: size, region, teaching status, revenue, and several other system characteristics. We coded these variables (see Table 1) to reflect the attributes of a health system.

The size variable measures the number of beds in a given health system (SIZE_B-SMALL, SIZE_B-MEDIUM, SIZE_B-LARGE). The region variable reflects the location of a health system (REGION-NE, REGION-MW, REGION-SOUTH, REGION-WEST). The teaching status variable assesses how a health system operates in association with a teaching program (TEACHING-NON, TEACHING-MINOR, TEACHING-MAJOR). The revenue variable measures the annual

revenue of a health system (REVENUE-LOW, REVENUE-MEDIUM, REVENUE-HIGH). Finally, we included variables to capture the high discharge levels of the health systems (HIGH-DSH-HOSP), uncompensated care burden (HIGH-BURDEN-SYS and HIGH-BURDEN-HOSP), ownership status (OWNERSHIP), number of physicians (PHYSICIANS), and number of hospitals (HOSPITALS). Table 1 presents complete information about the variables in our study.

Table 1. Description of variables, including survey questions and coding scheme.

Variable	Survey Questions
Question: "To what extent do the following dimensions describe how you address or plan to address in your company's workforce strategy?" *Responses reflect a 7-point Likert scale, from 1 = strongly disagree to 7 = strongly agree.*	
D&I STRATEGY	Inclusion of diversity-relevant dimensions in your organization's workforce strategy to attract talent: gender, ethnicity and race, disability, experience. *Cronbach's alpha= .60.*
TALENT STRATEGY	Inclusion of diversity-relevant dimensions in your organization's workforce strategy: knowledge, attitude toward career and progression, personal quality or mindset, and adaptability. *Cronbach's alpha= .67.*
Question: "What benefits, if any, has your organization obtained from its strategy to promote diversity and inclusiveness?" *Responses reflect a 7-point Likert scale, from 1 = strongly disagree to 7 = strongly agree.*	
BUSINESS BENEFIT	Obtaining business benefits from promoting diversity and inclusiveness: enhancing business performance, strengthening brand reputation, and innovating internally or externally. *Cronbach's alpha= .70.*
SERVICE BENEFIT	Obtaining service benefits from promoting diversity and inclusiveness: enhance customer satisfaction, serve customer needs, leverage technology advancements for services, and compete in new industries. *Cronbach's alpha= .83.*
Three Pathways to Equip the Health Systems Workforce Question: "How will you address talent needs in your organization?" *Responses reflect a 7-point Likert scale, from 1 = strongly disagree to 7 = strongly agree.*	
IMPROVE	Returnships of existing employees to acquire new skills.
RECRUIT	Use multiple channels to find and recruit workers, i.e., aspirations to discover new talent for health systems through emerging digital channels and traditional recruitment channels.
COLLABORATE	Reach out and collaborate with universities to find new talent and establish plans to train students.
Coding of Contingent Variables	
SIZE_B-SMALL SIZE_B-MEDIUM SIZE_B-LARGE	The size variable is measured using the total beds managed by the health system across all hospitals, reported by AHRQ Hospital Compendium. This variable is coded: – SIZE_B_SMALL: health system has fewer than 100 beds – SIZE_B_MEDIUM: health system has 100 to 400 beds – SIZE_B_LARGE: health system has more than 400 beds
REGION-NE REGION-MW REGION-SOUTH REGION-WEST	Following the Census Bureau's categorization, the region variable is coded based on the health system's primary location in the United States. This variable is coded: REGION-NE: health system in Northeast REGION-MW: health system in Midwest REGION-SOUTH: health system in South REGION-WEST: health system in West

TEACHING-NON TEACHING-MINOR TEACHING-MAJOR	The teaching variable is coded based on the teaching status of a health system. This variable is coded: – TEACHING-NON: non-teaching health system – TEACHING-MINOR: minor teaching health system – TEACHING-MAJOR: central teaching health system
REVENUE-LOW REVENUE-MEDIUM REVENUE-HIGH	The revenue variable of the health system is measured using its annual revenue across all hospitals. This variable is coded: – REVENUE-LOW: revenue less than 2 billion dollars – REVENUE-MEDIUM: 2-5 billion – REVENUE-HIGH: more than 5 billion dollars
HIGH-DSH-HOSP	The health system includes at least one high-DSH-patient-percentage hospital: 1=yes, 0=no.
HIGH-BURDEN-SYS	Health system-wide uncompensated care burden flag: 1=yes, 0=no
HIGH-BURDEN-HOSP	The health system includes at least one high uncompensated care burden hospital: 1=yes, 0=no.
OWNERSHIP	Predominantly investor-owned hospitals: 1=yes, 0=no
PHYSICIANS	The number of physicians in the health system is measured by the number of physicians reported by the AHRQ Hospital Compendium.
HOSPITALS	This variable is measured by the number of hospitals the health system has reported by the AHRQ Hospital Compendium.

Sample Statistics

The descriptive statistics and pairwise correlations among the key variables used in this study appear in Tables 2 and 3. As Table 2 shows, health systems, on average, value a talent strategy for improving employees' skills and capabilities (TALENT STRATEGY mean = 4.87) more than a D&I strategy (D&I STRATEGY mean = 4.62). The most popular pathway to equip a workforce is through collaboration with universities (COLLABORATE mean = 4.82), followed by recruitment (RECRUIT mean = 4.67), and then by improving the current workforce (IMPROVE mean = 4.49).

Table 2. Summary Statistics (N=124).

Variables	Mean	S.D.	Min	Max
D&I STRATEGY	4.62	.94	2.3	6.5
TALENT STRATEGY	4.87	1.10	2.2	6.5
BUSINESS BENEFIT	5.35	.94	1.7	7
SERVICE BENEFIT	4.67	1.28	2	6.5
IMPROVE	4.49	1.35	1	7
RECRUIT	4.67	1.51	1	7
COLLABORATE	4.82	1.36	2	7
SIZE_B-SMALL	.09	.28	0	1
SIZE_B-MEDIUM	.37	.49	0	1
SIZE_B-LARGE	.54	.50	0	1
REGION-NE	.22	.42	0	1
REGION-MW	.24	.43	0	1
REGION-SOUTH	.35	.48	0	1
REGION-WEST	.18	.38	0	1
TEACHING-NON	.30	.46	0	1
TEACHING-MINOR	.48	.50	0	1
TEACHING-MAJOR	.22	.41	0	1
REVENUE-LOW	.61	.49	0	1

REVENUE-MEDIUM	.23	.43	0	1
REVENUE-HIGH	.15	.35	0	1
HIGH-DSH-HOSP	.33	.47	0	1
HIGH-BURDEN-SYS	.20	.40	0	1
HIGH-BURDEN-HOSP	.30	.46	0	1
OWNERSHIP	.02	.13	0	1
PHYSICIANS	1.84	.80	1	3
HOSPITALS	1.50	.77	1	3

Table 3. Pairwise Correlations among Key Variables (N=124)a

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	D&I STRATEGY	1.00															
2	TALENT STRAT.	-.04	1.00														
3	BUSINESS BENEF.	.07	**.64**	1.00													
4	SERVICE BENEF.	**.31**	**.52**	**.79**	1.00												
5	IMPROVE	**.41**	**.29**	.11	**.27**	1.00											
6	RECRUIT	**.80**	.04	**.22**	**.46**	**.15**	1.00										
7	COLLABORATE	**.84**	**-.29**	**-.16**	.06	**.16**	**.58**	1.00									
8	SIZE	.11	-.07	-.08	-.09	.04	.03	.12	1.00								
9	REGION	.11	**-.19**	**-.17**	-.11	.12	.06	**.15**	.07	1.00							
10	OWNERSHIP	-.01	.002	-.001	.05	.10	.07	-.08	**-.19**	.07	1.00						
11	TEACHING	.01	-.13	-.15	**-.18**	-.09	-.10	.07	**.53**	-.06	-.07	1.00					
12	REVENUE	.11	-.10	-.01	.01	-.03	.02	.11	**.53**	.003	-.09	**.34**	1.00				
13	HIGH-DSH-HOSP.	.08	-.04	-.12	-.02	.002	.09	.01	**.19**	**.16**	.05	**.42**	.08	1.00			
14	HIGH-BURD.-SYS	-.08	.04	.11	.11	.14	-.14	-.11	.09	**.22**	-.06	-.05	-.05	-.01	1.00		
15	HIGH-BURD.-HOSP	.03	-.12	-.02	-.05	-.10	.02	.02	**.28**	**.23**	-.08	**.20**	.07	**.19**	**.42**	1.00	
16	PHYSICIANS	.11	-.04	.001	-.02	-.03	.03	.12	**.70**	-.04	-.05	**.57**	**.62**	**.23**	-.10	**.18**	1.00
17	HOSPITALS	.14	-.02	-.04	.01	-.05	.15	.13	**.49**	.03	-.08	**.26**	**.41**	**.18**	**-.20**	**.31**	**.57**

[a] The values in bold indicate the significance at the 0.1 level.

In addition, to ensure there is no non-response bias, we compared the characteristics of responding and nonresponding health systems. We provide detailed comparisons in Table 4. The *t*-test results for all comparisons indicate no significant difference between respondents and non-respondents.

Table 4. Characteristics of Responding and Nonresponding health systems

Characteristics[a]	Respondents N=124	Non-respondents N=511	
	Percent		*t value*
Size			
Small (6-99 beds)	9%	8%	-0.19
Medium (100-399 beds)	37%	41%	-0.56
Large (>=400 beds)	55%	50%	1.41
Region			
Northeast	22%	23%	0.07
Midwest	24%	26%	0.55
South	36%	33%	-0.48
West	18%	18%	-0.12
Physicians			
Small (51-199 physicians)	40%	37%	-0.74
Medium (200-999 physicians)	33%	40%	-0.69
Large (>=1000 physicians)	26%	23%	1.53

Hospitals			
Small (1-3 hospitals)	67%	66%	-1.27
Medium (4-6 hospitals)	16%	13%	-0.02
Large (>=7 hospitals)	17%	21%	0.81
Ownership status			
Investor-owned	2%	3%	-0.85
Non-investor-owned	98%	97%	0.85
Teaching status			
Major teaching	23%	27%	-0.15
Minor teaching	47%	44%	-0.61
Nonteaching	30%	29%	0.85

[a]The number of physicians and hospitals are presented in this table in different categories for easy comparison across respondents and non-respondents.

Statistical Analysis

We used ordered logit regressions to estimate (1) the relationship between specific hospital characteristics and workforce-strategy focus as well as diversity benefits, (2) the relationship between workforce-strategy focus and pathways to equip the workforce, and (3) the mediating effects of workforce choices on the relationship between workforce strategy focus and diversity-driven business and service outcomes. We used ordered logit regressions because the dependent variables are ordinal. This approach does not assume equal intervals between levels of the dependent variable. The ordered logit model is as follows:

$$Y_i^* = \beta X_i + e_i,$$

Where, Y_i^* is the propensity of respondents to indicate higher levels of the dependent variables, X_i is a set of explanatory variables, β is a vector of parameters, and e_i are disturbances (errors).

We do not observe; instead, we observe the ordinal dependent variable Y_i. Depending on the values of thresholds or cutoff points τ_{m-1} and τ_m, the probability distribution of Y_i is given as follows:

$$\Pr (Y_i = m | \mathbf{X}_i = F(\tau_m - X\beta) - F(\tau_{m-1} - X\beta).$$

Results

Estimation Outcomes

The first two columns in Table 5 display the results from the ordered logit-model estimations that describe the relationship between contingent factors and health systems' workforce-strategy focus. The remaining two columns in Table 5 present the results on health systems' diversity-enabled benefits.

First, for valuing diversity and inclusiveness, the results indicate that compared to small-size health systems, medium-size health systems are less likely to value diversity and inclusiveness in their D&I strategies ($P<.001$). Conversely, large-size health systems are more likely to value D&I strategies than small-size health systems ($P=.002$). There are some differences between health systems located in the Northeast and West, in so far as those in the West tend to focus more on diversity and inclusiveness ($P =.001$). Next, when the health system includes at least one high-DSH-patient-percentage hospital, it tends to value D&I more ($P<.001$). The results also show that high-revenue health systems seem to value D&I less than low-revenue health systems ($P < .05$). In addition, health systems with system-wide, high-uncompensated-care-burden tend to value D&I less ($P < .05$).

These results differ from those in Column 2 of Table 5, which shows the estimation results of the contingent factors on valuing a talent-acquisition strategy. In terms of a workforce-strategy focus, there seem to be no differences in health systems concerning size, ownership status, DSH, uncompensated care burden, and the number of physicians and hospitals. Region and revenue level yields the most significant differences. The results indicate that health systems in the Northeast emphasize employees' skills and capabilities more than those located in the South and West. Also, compared to low-revenue health systems, medium- and high-revenue health systems tend to emphasize talent-acquisition strategy less ($P<.001$).

Columns 3 and 4 in Table 5 show the associations between health-system characteristics and business and service benefits (while valuing D&I). The results of size and revenue are consistent for both types of benefits. For both business benefits ($P< .001$) and service benefits ($P< .01$), small-sized health systems tend to gain compared with medium- and large-sized health systems. Next, high-revenue health systems are more likely to gain both types of benefits than low revenue ones ($P< .001$).

There are also some differences between these two benefits across health systems. For the business, investor-owned health systems ($P<.05$), health systems with medium revenue [($P< .01$) vs. low revenue], health systems with at least one high-DSH-patient-percentage hospital ($P< .01$), and system-wide uncompensated care burden ($P<.001$) tend to gain more benefits, while health systems with more hospitals ($P<.05$) are more likely to gain fewer business development benefits due to a diversity strategy. Next, for service-oriented benefits, region results in some differences: Compared with health systems located in the Northeast, those in the South ($P< .01$) and in the West ($P< .05$) seem to gain fewer service-improvement benefits.

Table 5. Results: Differences Across Health Systems [a]

VARIABLES	(1) D&I STRATEGY Coeff.	P-value	(2) TALENT STRATEGY Coeff.	P-value	(3) BUSINESS BENEFIT Coeff.	P-value	(4) SERVICE BENEFIT Coeff.	P-value
SIZE_B-MEDIUM	-0.685 (0.074)[b]	$P<.001$	-0.204 (0.516)	0.692	-1.035 (.167)	$P<.001$	-1.329 (.447)	.003
SIZE_B-LARGE	0.342 (0.110)	0.002	0.411 (0.957)	0.668	-.377 (.057)	$P<.001$	-1.441 (.472)	.002
REGION-MW	0.069 (0.304)	0.820	-0.481 (0.572)	0.401	-.772 (.948)	.415	-.945 (.750)	.208
REGION-SOUTH	0.180 (0.433)	0.677	-1.363 (0.403)	0.001	-.698 (.622)	.262	-1.597 (.496)	.001
REGION-WEST	0.482 (0.144)	0.001	-0.761 (0.106)	$P<.001$	-.009 (.756)	.991	-1.224 (.558)	.028
TEACHING-MINOR	-0.228 (0.241)	0.343	-0.016 (0.419)	0.970	.207 (.744)	.781	-.393 (1.039)	.706
TEACHING-MAJOR	-0.743 (1.155)	0.520	-0.727 (0.394)	0.065	-.673 (.565)	.233	-1.304 (.816)	.110
REVENUE-MEDIUM	0.622 (0.912)	0.495	-0.784 (0.042)	$P<.001$	.339 (.122)	.005	-.169 (.130)	.193
REVENUE-HIGH	-0.241 (0.104)	0.020	-0.338 (0.047)	$P<.001$	.662 (.098)	$P<.001$	.188 (.046)	$P<.001$
HIGH-DSH-HOSP	0.359 (0.061)	$P<.001$	0.298 (0.364)	0.414	.424 (.187)	.023	.038 (.508)	.940
HIGH-BURDEN-SYS	-0.552 (0.250)	0.027	0.463 (0.679)	0.495	.675 (.127)	$P<.001$	.780 (.526)	.138

HIGH-BURDEN-HOSP	-0.100 (0.454)	0.826	-0.482 (0.708)	0.496	-.302 (.456)	.509	.102 (.264)	.699
OWNERSHIP	-0.258 (0.290)	0.373	0.504 (3.485)	0.885	1.559 (.655)	.017	-.397 (3.235)	.902
PHYSICIANS	-0.092 (0.355)	0.795	-0.074 (0.307)	0.810	-.102 (.344)	.767	.267 (.218)	.220
HOSPITALS	0.031 (0.124)	0.801	0.189 (0.251)	0.451	-.248 (.112)	.028	.173 (.164)	.290
Observations	124		124		124		123	
Pseudo R-squared	.0247		.0298		.0282		.0410	

[a] The results of the cut points are omitted for brevity,

[b] Standard errors in parentheses

The results in Table 6 show different relationships between the three workforce pathways and the D&I and Talent Strategies. The results indicate a significant and negative relationship between D&I STRATEGY and COLLABORATE ($P<.001$), but a significant and positive relationship between TALENT STRATEGY and RECRUIT ($P<.001$). The relationship between TALENT STRATEGY and COLLABORATE is significant and positive ($P<.05$). The relationships between the two strategies and IMPROVE path as well as the relationship between D&I STRATEGY and RECRUIT pathway are not significant.

Table 6. Results: Workforce Strategy Focus and Workforce Pathways [a]

	(1) IMPROVE		(2) RECRUIT		(3) COLLABORATE	
VARIABLES	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
D&I STRATEGY	-0.059 (0.394)[b]	0.882	-0.098 (0.153)	0.522	-0.134 (0.036)	$P<.001$
TALENT STRATEGY	-0.099 (0.110)	0.371	0.950 (0.156)	$P<.001$	0.523 (0.259)	0.043
SIZE	0.169 (0.195)	0.386	-0.356 (0.512)	0.488	-0.954 (0.571)	0.095
REGION	0.108 (0.248)	0.662	0.121 (0.136)	0.371	-0.315 (0.096)	0.001
OWNERSHIP	1.727 (1.080)	0.110	1.071 (0.351)	0.002	0.018 (1.378)	0.989
TEACHING	-0.256 (0.086)	0.003	-0.240 (0.165)	0.145	-0.364 (0.153)	0.017
REVENUE	-0.087 (0.226)	0.701	0.025 (0.107)	0.812	0.704 (0.219)	0.001
HIGH-DSH-HOSP	0.330 (0.108)	0.002	0.133 (0.300)	0.657	0.132 (0.286)	0.643
HIGH-BURDEN-SYS	0.852 (0.267)	0.001	0.193 (0.165)	0.242	-0.275 (0.320)	0.389
HIGH-BURDEN-HOSP	-0.847 (0.517)	0.101	-0.483 (0.269)	0.073	1.270 (0.582)	0.029
PHYSICIANS	-0.202 (0.054)	$P<.001$	-0.033 (0.155)	0.829	0.431 (0.487)	0.376
HOSPITALS	0.113 (0.109)	0.299	0.351 (0.160)	0.029	0.027 (0.188)	0.884
Observations	124		124		124	
Pseudo R-squared	.0336		. 0940		. 0856	

[a] The results of the cut points are omitted for parsimony,

[b] Standard errors in parentheses

Table 7 displays the mediating effects of three workforce pathways (i.e., IMPROVE, RECRUIT, and COLLABORATE) on the direct relationship between D&I and TALENT strategies on BUSINESS BENEFIT. Analysis of the mediating models using Sobel Goodman tests, which determine whether a variable carries (or mediates) the effect of an independent variable to the dependent variable—the outcome of interest, shows that overall, IMPROVE has a higher mediating effect (44%) than COLLABORATE (4%) and RECRUIT (7%), between D&I STRATEGY and BUSINESS BENEFIT. Similarly, IMPROVE has a higher mediating effect (13%) than COLLABORATE (5%) and RECRUIT (1%), between TALENT STRATEGY and BUSINESS BENEFIT.

Table 7. Results: Workforce Pathways and Business Benefits [a]

| | BUSINESS BENEFIT | | | | | | | | | |
| | (1) | | (2) | | (3) | | (4) | | (5) | |
VARIABLES	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
D&I STRATEGY	0.496 (0.335)[b]	0.139	0.604 (0.264)	0.022	0.505 (0.263)	0.055	0.529 (0.346)	0.126	0.624 (0.270)	0.021
TALENT STRATEGY	1.331 (0.252)	P<.001	1.500 (0.268)	P<.001	1.093 (0.248)	P<.001	1.274 (0.242)	P<.001	1.334 (0.300)	P<.001
IMPROVE			0.766 (0.171)	P<.001					0.597 (0.218)	0.006
RECRUIT					0.416 (0.012)	P<.001			0.187 (0.010)	P<.001
COLLABORATE							0.444 (0.076)	P<.001	0.282 (0.108)	0.009
SIZE	-0.292 (0.115)	0.011	-0.386 (0.213)	0.070	-0.238 (0.135)	0.077	-0.104 (0.194)	0.591	-0.248 (0.258)	0.336
REGION	-0.118 (0.100)	0.240	-0.234 (0.051)	P<.001	-0.169 (0.082)	0.040	-0.048 (0.083)	0.561	-0.174 (0.073)	0.016
OWNERSHIP	0.252 (0.663)	0.704	-0.326 (1.184)	0.783	-0.041 (0.832)	0.961	0.348 (0.540)	0.520	-0.294 (1.065)	0.783
TEACHING	-0.248 (0.573)	0.665	-0.156 (0.553)	0.778	-0.177 (0.608)	0.771	-0.170 (0.595)	0.775	-0.120 (0.610)	0.845
REVENUE	0.152 (0.067)	0.023	0.239 (0.018)	P<.001	0.181 (0.079)	0.022	0.056 (0.170)	0.739	0.185 (0.107)	0.083
HIGH-DSH-HOSP	-0.389 (0.536)	0.468	-0.437 (0.523)	0.403	-0.416 (0.454)	0.360	-0.357 (0.487)	0.464	-0.387 (0.469)	0.409
HIGH-BURDEN-SYS	0.567 (0.107)	P<.001	0.429 (0.138)	0.002	0.546 (0.136)	P<.001	0.669 (0.176)	P<.001	0.541 (0.105)	P<.001
HIGH-BURDEN-HOSP	0.218 (0.390)	0.576	0.428 (0.248)	0.085	0.328 (0.296)	0.267	-0.111 (0.574)	0.847	0.197 (0.285)	0.490
PHYSICIANS	0.413 (0.560)	0.460	0.388 (0.609)	0.523	0.419 (0.545)	0.442	0.253 (0.712)	0.722	0.327 (0.677)	0.630
HOSPITALS	-0.303 (0.205)	0.139	-0.182 (0.255)	0.475	-0.385 (0.173)	0.026	-0.248 (0.257)	0.335	-0.179 (0.273)	0.513
Observations	124		124		124		124		124	
Pseudo R-squared	.1209		. 1539		.1391		.1334		.1638	

[a] The results of the cut points are omitted for brevity,
[b] Standard errors in parentheses

Table 8 shows the mediating effects of the three workforce pathways (i.e., IMPROVE, RECRUIT, and COLLABORATE) on the direct relationship between D&I and TALENT strategies on SERVICE BENEFIT. Analysis of the mediating models using Sobel Goodman tests shows that overall, IMPROVE has a higher mediating effect (27%) than COLLABORATE (2%) and RECRUIT (.05%) between D&I STRATEGY and SERVICE BENEFIT. Similarly, IMPROVE has a higher mediating effect (26%) than COLLABORATE (0.06%) and RECRUIT (0.02%) between TALENT STRATEGY

and SERVICE BENEFIT.

Table 8. Results: Workforce Pathways and Service Benefits [a]

VARIABLES	SERVICE BENEFIT									
	(1)		(2)		(3)		(4)		(5)	
	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
D&I STRATEGY	0.758 (0.088)[b]	P<.001	0.770 (0.039)	P<.001	0.830 (0.076)	P<.001	0.774 (0.152)	P<.001	0.873 (0.081)	P<.001
TALENT STRATEGY	1.165 (0.192)	P<.001	1.256 (0.208)	P<.001	0.783 (0.139)	P<.001	1.098 (0.182)	P<.001	0.886 (0.155)	P<.001
IMPROVE			0.655 (0.059)	P<.001					0.448 (0.024)	P<.001
RECRUIT					0.762 (0.080)	P<.001			0.653 (0.100)	P<.001
COLLABORATE							0.434 (0.323)	0.179	0.291 (0.357)	0.416
SIZE	-0.502 (0.350)	0.152	-0.521 (0.364)	0.153	-0.337 (0.165)	0.041	-0.300 (0.501)	0.549	-0.257 (0.378)	0.497
REGION	-0.204 (0.279)	0.465	-0.337 (0.255)	0.186	-0.330 (0.189)	0.081	-0.132 (0.269)	0.622	-0.351 (0.204)	0.086
OWNERSHIP	1.193 (0.507)	0.018	0.747 (0.830)	0.368	0.766 (0.771)	0.321	1.287 (0.290)	P<.001	0.653 (0.723)	0.366
TEACHING	-0.314 (0.471)	0.506	-0.356 (0.494)	0.471	-0.353 (0.662)	0.593	-0.281 (0.495)	0.571	-0.327 (0.624)	0.600
REVENUE	0.387 (0.236)	0.102	0.408 (0.234)	0.081	0.406 (0.237)	0.086	0.226 (0.272)	0.406	0.358 (0.301)	0.234
HIGH-DSH-HOSP	0.030 (0.444)	0.946	0.095 (0.446)	0.831	0.121 (0.377)	0.747	0.119 (0.407)	0.770	0.118 (0.387)	0.761
HIGH-BURDEN-SYS	1.239 (0.325)	P<.001	1.039 (0.468)	0.026	1.116 (0.284)	P<.001	1.311 (0.186)	P<.001	0.999 (0.241)	P<.001
HIGH-BURDEN-HOSP	-0.429 (0.367)	0.243	-0.166 (0.285)	0.560	-0.104 (0.182)	0.570	-0.767 (0.748)	0.305	-0.045 (0.421)	0.915
PHYSICIANS	0.073 (0.453)	0.872	0.121 (0.541)	0.824	0.178 (0.437)	0.683	0.025 (0.682)	0.970	0.133 (0.628)	0.833
HOSPITALS	0.221 (0.343)	0.520	0.323 (0.344)	0.348	-0.007 (0.244)	0.979	0.257 (0.396)	0.517	0.042 (0.271)	0.876
Observations	123		123		123		123		123	
Pseudo R-squared	.123		.153		.178		.135		.194	

[a] The results of the cut points are omitted for brevity,
[b] Standard errors in parentheses

Discussion

Implications of Findings

Getting diversity right in the healthcare workforce remains a challenge, regardless of the widespread realization that D&I is critically important in this sector. Health systems lag in proactive plans, results-driven strategies, and subsequent implementations. Without these, the concept of D&I will be but a fad without any tangible results for decades to come.

This study explores the differences in D&I strategies across different health system characteristics. The findings suggest that health systems with fewer beds, those located in the West, with low revenues, with at least one DSH hospital, and less system-wide uncompensated care burden value D&I more and are more likely to have a D&I strategy in place. Plausibly, these systems are driven by

a focused strategy, locational alignments, and a manageable suite of complexities to instill D&I plans. Some of these differences are different from a talent-acquisition approach, indicating that health systems treat these two diversity practices differently. Regarding the diversity benefits, it seems that small health systems with comparatively high revenue have been able to gain both business- and service-related benefits; in other aspects of the health systems, however, the benefits vary across categories.

The most important contribution of this study has been to compare and contrast the three workforce pathways and their associations with benefits. The findings suggest that health systems that value *only* a D&I strategy may NOT rely on collaboration with universities to equip their workforces. However, health systems that value a talent strategy will look externally to recruit new workers and seek collaboration with universities.

While examining the pathways through mediation analyses, we established that the "improve" pathway is more effective than the "recruit" and "collaborate" pathways in enabling the diversity strategy to prompt business or service benefits. Moreover, these pathway effects go hand-in-hand with a talent strategy, indicating that both talent and diversity strategies need to be aligned to achieve the best results for a health system.

Limitations and Directions for Further Research

This study has some limitations that future studies may be able to address. For example, we do not focus on the effects of internal issues (e.g., management, coordination) on diversity. Furthermore, the opportunities and barriers to diversity strategies should be studied in detail. Relating diversity to well-known aspects of healthcare delivery such as cost, quality, and patient-experience outcomes is also essential. We also need to note that the 22% response rate is not very high, although it represents the US health systems' population. Increasing response rates and covering all health systems in a study will require significant resources, and we may conduct such a study in the future.

Conclusions

The challenges and uncertainties that COVID-19 has presented to health systems in the United States have been unprecedented. The pandemic has propelled many issues to the forefront, diversity being one of those. It is time for health systems to address the diversity issue, which has been a point of conversation for more than two or three decades. However, little progress has been made to date, and few proactive strategies are in place, leading to a non-diverse workforce in US healthcare.

This study demonstrates that D&I efforts have numerous positive business and service outcomes. Regarding the methods to address the talent shortage, it seems that health systems that value D&I are less likely to seek external collaborations. This may be because external collaboration is not an effective way to promote D&I inside the health systems. A notable point is the importance of professional and executive training programs and further education for instilling a D&I mindset, strategy, and pathways in a health system. This improvement pathway is beneficial for outcomes; however, diversity and talent-acquisition efforts must be aligned with recruitment to yield multiple benefits for health systems. Following these findings, our recommendations will help health systems establish a more diverse healthcare workforce and improve outcomes for a diverse population.

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Conflicts of Interest

None declared.

Abbreviations

COVID-19: coronavirus disease
D&I: diversity and inclusion
DHS: Department of Health Services
CEO: Chief Executive Officer

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