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MEDICAL LEADERSHIP AND HEALTH POLICY ADVOCACY: PHYSICIANS AS CHANGE AGENTS IN PUBLIC HEALTH REFORM

Original Research

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ABSTRACT

Background: Physicians are increasingly acknowledged as key stakeholders in shaping health policy due to their clinical experience and system-level insights. However, their participation in formal policy advocacy remains inadequately quantified, and the enabling or limiting factors influencing their engagement are poorly understood. Addressing this knowledge gap is essential to strengthen physician-led public health reform, especially in an era marked by complex health challenges and persistent health inequities.

Objective: To assess the extent of physician involvement in health policy advocacy, evaluate the impact of leadership training on their advocacy engagement, and identify major facilitators and barriers to participation.

Methods: A cross-sectional survey was administered between January and March 2025 to a purposive and snowball sample of 210 licensed physicians working in clinical leadership, academic, public health, or policy-based roles. The questionnaire integrated validated tools from the Medical Leadership Competency Framework and PATH Advocacy Evaluation Framework. Responses were recorded using 5-point Likert scales. Data were analyzed using descriptive statistics, chi-square tests, t-tests, and multivariate logistic regression to determine associations and predictors of high advocacy engagement.

Results: Among 210 participants, 124 (59.0%) were male and 86 (41.0%) were aged 40–49 years. A majority (80%) had over 10 years of experience, with 62% serving in academic or hospital leadership. The highest leadership competency scores were in personal qualities (Mean = 4.21, SD = 0.61) and working with others (Mean = 4.15, SD = 0.57), while improving services scored lowest (Mean = 3.88, SD = 0.75). Frequent advocacy activities included public speaking (46.7%) and contacting policymakers (40.0%). Legislative testimony (20.0%) and international advocacy (≤21.5%) were less common. Leadership training (OR = 2.45, $p = 0.002$) and high policy leadership competency (OR = 3.21, $p < 0.001$) significantly predicted high advocacy engagement. Institutional support remained moderate (Mean = 3.52, SD = 0.85).

Conclusion: Physicians with formal leadership training and high policy leadership competency are more actively involved in advocacy, particularly in academic and policy-driven roles. Institutional constraints, however, may limit sustained engagement. Integrating leadership development and structured advocacy training into medical education and organizational policy is critical for advancing physician-led health reforms.

Keywords: advocacy, health policy, leadership training, medical education, physicians, public health, workforce development.

INTRODUCTION

Public health challenges are growing in complexity, demanding more than clinical expertise from physicians. While traditionally confined to patient care, physicians are increasingly recognized for their potential to influence healthcare systems through active involvement in policy development. Their unique perspective—gained from daily interactions with patients and deep familiarity with system-level gaps—places them in a critical position to advocate for meaningful change (1). However, despite this advantage, physicians remain significantly underrepresented in health policy leadership and advocacy roles (2). This disconnect is particularly concerning amid the urgent demand for systemic reform in the wake of global health crises such as the COVID-19 pandemic, rising chronic disease burdens, and persistent health inequities (3). In recent years, the role of medical leadership and advocacy has garnered increasing attention as a means to confront these public health challenges (4). Nonetheless, the empirical literature on physician participation in health policy remains limited. Several studies have identified systemic barriers—such as time constraints, limited institutional support, and inadequate formal training—as critical impediments to physician advocacy (5). For instance, a study reported that only a small proportion of physicians actively engage in policy work, with most citing a lack of resources or guidance as primary deterrents (6,7). Conversely, physicians who have received structured leadership and advocacy training are reportedly more likely to participate in health policy efforts, suggesting that such preparation plays a pivotal role in shaping professional engagement (8).

Despite these observations, there remains a notable gap in quantitative research exploring the impact of formal leadership training on both the extent and effectiveness of physicians' involvement in policy advocacy (9). Addressing this gap is essential for designing educational frameworks and institutional policies that can empower physicians to become influential agents of public health reform. As healthcare systems globally strive to improve patient outcomes and reduce disparities, understanding the facilitators and obstacles to physician advocacy is more important than ever. This study, therefore, seeks to quantify physicians' participation in health policy advocacy, evaluate the effect of leadership training on their engagement, and identify key barriers and enabling factors. In doing so, it aims to inform strategies that enhance the leadership capacity of physicians and better integrate them into the policymaking process.

METHODS

This study employed a cross-sectional survey design to quantitatively assess the leadership competencies and policy advocacy behaviors of physicians actively engaged in healthcare leadership, public health, or policy-related roles. The data collection period spanned from January to March 2025. The survey instrument was disseminated electronically through email invitations, professional networks, and medical association mailing lists to ensure a broad reach among physicians involved in public health initiatives, health system leadership, and policy advocacy. The study population included licensed physicians (MD or equivalent) currently practicing in clinical, administrative, academic, or policy-focused settings, with either present or prior involvement in healthcare leadership or policy advocacy. Eligible participants were those working in hospitals, public health institutions, medical universities, governmental or non-governmental organizations, or any healthcare setting where leadership or advocacy efforts are operational. Exclusion criteria included physicians without valid medical licensure or those without any history of involvement in leadership or advocacy roles. A purposive sampling strategy was employed to target physicians with known or expected engagement in relevant activities, and this was augmented by snowball sampling to enhance participant diversity and reach (10).

Ethical approval for the study was granted by the Department of Medicine, Dow University of Health Sciences (DUHS), Karachi, Pakistan. All research procedures adhered to internationally accepted ethical standards for human subjects research. Participation was strictly voluntary. Each respondent was provided with an electronic participant information sheet detailing the study objectives, procedures, data privacy assurances, and participant rights. Informed consent was obtained electronically, requiring explicit confirmation before access to the survey was granted. To maintain confidentiality, no personally identifiable information was collected, and all responses were anonymized. The final dataset was stored on an encrypted, password-protected server accessible only to the principal investigator and authorized research staff. Data were collected via a structured, self-administered online questionnaire designed to capture a comprehensive profile of each participant’s background, leadership engagement, and advocacy experiences. The instrument consisted of four key sections. The first collected demographic and professional data, including age, gender, years of clinical experience,

INSIGHTS-JHR
INSIGHTS-JOURNAL OF HEALTH AND REHABILITATION

specialty, current role, and geographical setting. The second assessed leadership competencies using items adapted from the validated Medical Leadership Competency Framework (MLCF), covering five core domains: personal qualities, working with others, managing services, improving services, and setting direction. Responses were recorded on a 5-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree."

The third section focused on advocacy behaviors and was adapted from the PATH Advocacy Evaluation Framework. It included questions about the frequency of engagement in various advocacy activities (e.g., contacting policymakers, participating in public events, media engagement), levels of advocacy involvement (local to international), and specific actions such as legislative testimony or coalition building. The final section evaluated perceived advocacy efficacy, asking respondents to rate their confidence in influencing health policy, the perceived impact of their advocacy, and the level of institutional or systemic support available to them. All items in this section also used a 5-point Likert scale. The questionnaire was pilot-tested on a small sample of ten physicians to assess clarity, content validity, and response burden. Feedback from the pilot led to minor revisions in item wording and scale structure to improve readability and relevance. The final survey required approximately 12–15 minutes to complete. Data analysis was conducted using SPSS (version 26) or R software. Descriptive statistics were used to summarize demographic characteristics and frequency of leadership and advocacy engagement. Bivariate analyses such as Chi-square tests and independent sample t-tests were performed to assess associations between leadership variables and advocacy behaviors. Multivariate logistic regression models were employed to identify predictors of high advocacy involvement and perceived advocacy efficacy.

RESULTS

The final sample included 210 licensed physicians, with a gender distribution of 59.0% male, 40.0% female, and 1.0% preferring not to disclose. The majority were in the 40–49 age group (41.0%), followed by those aged 50–59 years (25.7%). A significant proportion (41.9%) had over 20 years of clinical experience, and another 37.1% had 10–20 years, indicating a sample with substantial professional maturity. Regarding workplace setting, 34.3% were in hospital leadership roles, 27.6% in academic medicine, 24.8% in public health agencies, and 13.3% were affiliated with governmental or non-governmental policy bodies. Leadership competencies were assessed across five domains. The highest mean score was observed in personal qualities (Mean = 4.21, SD = 0.61), reflecting strong self-awareness, resilience, and ethical conduct among participants. This was followed by working with others (Mean = 4.15, SD = 0.57), managing services (Mean = 4.02, SD = 0.69), and setting direction or policy influence (Mean = 3.95, SD = 0.72). The lowest score, although still relatively high, was reported in improving services (Mean = 3.88, SD = 0.75), suggesting a comparatively lower perceived capability in driving innovation and service transformation.

Advocacy activities varied in both frequency and nature. Public speaking and participation in events were the most frequently reported, with 46.7% engaging regularly and an additional 35.2% doing so occasionally. Contacting policymakers followed closely, with 40.0% engaging frequently and 36.2% occasionally. Formal policy engagement such as legislative testimony had lower frequency (20.0% frequent, 31.0% occasional). Coalition building (33.3% frequent, 41.9% occasional) and media contributions (28.6% frequent, 34.3% occasional) reflected moderate engagement levels across the cohort. Involvement levels in advocacy were closely associated with professional setting. Physicians in academic roles were more engaged at the national level (60.3%), while those in NGO or government roles demonstrated higher international involvement (21.5%). Public health agency physicians were involved both locally (48.1%) and nationally (46.2%), whereas those in hospital leadership showed a predominance of local-level engagement (56.9%).

Perceived efficacy in advocacy revealed high levels of personal confidence but highlighted systemic challenges. Confidence in influencing policy scored a mean of 4.01 (SD = 0.68), while perceived impact on health outcomes scored 3.76 (SD = 0.73). The lowest rating was for institutional support (Mean = 3.52, SD = 0.85), suggesting a potential gap in organizational infrastructure necessary to support sustained advocacy. Logistic regression analysis identified key predictors of high advocacy engagement. Physicians who had received formal leadership training were significantly more likely to be active advocates (OR = 2.45, 95% CI: 1.38–4.35, $p = 0.002$). Similarly, working in an academic setting was associated with higher odds of engagement (OR = 1.72, 95% CI: 1.02–2.91, $p = 0.041$). Although having ≥10 years of practice showed a positive trend (OR = 1.56), it was not statistically significant ($p = 0.118$). The strongest predictor was a high competency score in policy leadership, which more than tripled the likelihood of advocacy involvement (OR = 3.21, 95% CI: 1.88–5.49, $p < 0.001$).

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Table 1: Participant Demographics (N = 210)

Variable	Category	Frequency (%)
Gender	Male	124 (59.0)
	Female	84 (40.0)
	Prefer not to say	2 (1.0)
Age Group	30–39	42 (20.0)
	40–49	86 (41.0)
	50–59	54 (25.7)
	60+	28 (13.3)
Years in Practice	<10	44 (21.0)
	10–20	78 (37.1)
	>20	88 (41.9)
Current Work Setting	Hospital Leadership	72 (34.3)
	Public Health Agency	52 (24.8)
	Academic (Medical School)	58 (27.6)
	NGO / Government Policy	28 (13.3)

Table 2: Leadership Competency Scores (Mean, SD)

Leadership Domain	Mean Score (1–5)	SD
Personal Qualities	4.21	0.61
Working with Others	4.15	0.57
Managing Services	4.02	0.69
Improving Services	3.88	0.75
Setting Direction (Policy)	3.95	0.72

Table 3: Advocacy Involvement

Advocacy Activity Type	Frequently Engaged (%)	Occasionally Engaged (%)
Contacting Policymakers	84 (40.0)	76 (36.2)
Public Speaking/Events	98 (46.7)	74 (35.2)
Legislative Testimony	42 (20.0)	65 (31.0)
Media Contributions	60 (28.6)	72 (34.3)
Coalition Building	70 (33.3)	88 (41.9)

Table 4: Level of Advocacy Involvement by Setting

Work Setting	Local (%)	National (%)	International (%)
Hospital Leadership	56.9	38.9	4.2
Public Health Agency	48.1	46.2	5.8
Academic (Medical School)	31.0	60.3	8.7
NGO / Government	21.4	57.1	21.5

Table 5: Perceived Efficacy in Advocacy (Mean Likert Scores)

Item	Mean (1–5)	SD
Confidence in Influencing Policy	4.01	0.68
Perceived Impact on Health Outcomes	3.76	0.73
Institutional Support for Advocacy	3.52	0.85

Table 6: Predictors of High Advocacy Engagement (Multivariate Logistic Regression)

Predictor Variable	Odds Ratio (OR)	95% CI	p-value
Leadership Training (Yes vs No)	2.45	1.38 – 4.35	0.002
Academic Setting (vs Hospital)	1.72	1.02 – 2.91	0.041
≥10 Years Practice (vs <10)	1.56	0.89 – 2.74	0.118
High Policy Leadership Score	3.21	1.88 – 5.49	<0.001

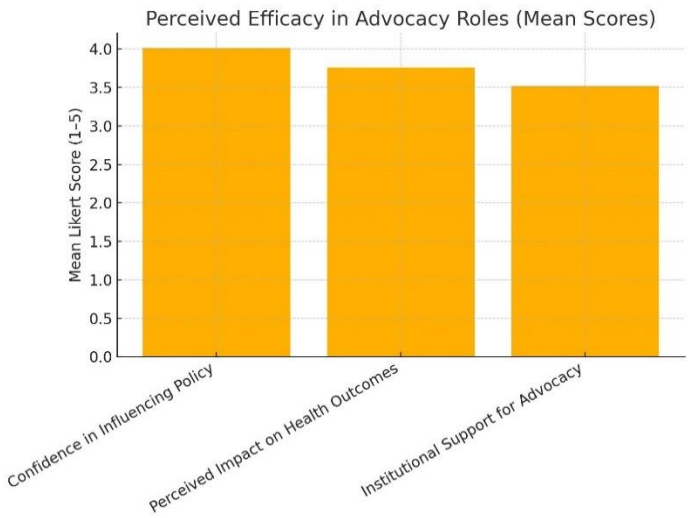

Figure 1 Perceived Efficacy in Advocacy Role (Mean Scores)

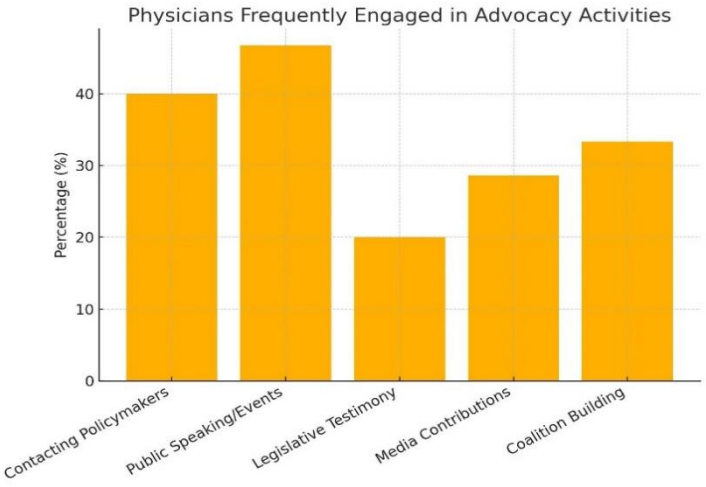

Figure 2 Physicians Frequently Engaged in Advocacy Activities

DISCUSSION

This study offered important insights into the leadership competencies and advocacy behaviors of physicians across varied healthcare sectors, reflecting both individual capabilities and systemic influences. The inclusion of 210 licensed physicians with diverse professional experiences and workplace settings enhanced the external validity of the findings and allowed for a more representative understanding of advocacy patterns within the physician community. The demographic composition—predominantly mid-to-late career professionals with over a decade of clinical practice—further strengthened the study's credibility, as it captured perspectives of individuals likely to possess accumulated institutional knowledge and leadership experience. This characteristic aligns with literature emphasizing the increasing relevance of leadership and advocacy roles among experienced medical professionals (11,12). Leadership competency scores demonstrated a generally positive self-assessment, with highest values in personal qualities and collaborative abilities, underscoring physicians' strength in self-awareness, ethics, and teamwork. These findings are consistent with previous research linking emotional intelligence and interpersonal skills to effective healthcare leadership (13). However, relatively lower scores in the domain of improving services pointed toward a recognized limitation in innovation and change management. This shortfall may be attributed to entrenched institutional cultures, inadequate leadership development in change theory, or structural inertia within health systems that resist reform initiatives (14). This result emphasizes a continuing need for training programs that not only reinforce soft skills but also cultivate adaptive leadership competencies essential for driving service innovation (15).

Patterns of advocacy involvement varied markedly across activities and settings. Physicians most commonly engaged in public speaking and direct interaction with policymakers, while more formal avenues such as legislative testimony and structured policy drafting saw lower participation. These trends reflect findings from prior studies suggesting that while physicians view advocacy as part of their professional obligation, institutional and experiential limitations may restrict deeper involvement in legislative processes (16). The stratification of advocacy levels by professional setting further illuminated this dynamic. Physicians in academic or governmental/NGO roles displayed broader engagement at national and international levels, suggesting that institutional context significantly facilitates access and exposure to policy platforms (17). Conversely, those in hospital-based leadership were more grounded in local-level

advocacy, indicating the role of clinical administrative priorities in shaping advocacy scope. Confidence in influencing policy was generally high, reinforcing the idea that physicians are not only aware of their potential impact but also motivated to act. However, a lower perceived impact on health outcomes and notably limited institutional support for advocacy suggest a dissonance between individual willingness and systemic capacity to support sustained engagement. This disconnect mirrors existing critiques of healthcare institutions where advocacy is often viewed as secondary to clinical duties, despite its long-term value in health systems strengthening (18,19). These systemic limitations highlight the need for policy reforms and institutional investments that legitimize and facilitate physician-led advocacy.

Multivariate regression analysis identified formal leadership training as the most robust predictor of active policy engagement, reinforcing the efficacy of structured educational interventions in fostering physician leadership. This finding is well-supported by literature emphasizing the transformative role of leadership training programs in building advocacy confidence and competence (19). Similarly, the academic setting was significantly associated with higher advocacy involvement, indicating that institutional culture and support mechanisms in such environments are conducive to policy engagement (20). The strong association between perceived policy leadership competency and actual advocacy behavior further corroborates the critical role of self-efficacy in driving public health leadership (21). While the study presented numerous strengths, including its multisectoral participant pool and comprehensive leadership framework, certain limitations must be acknowledged. The sample, although adequate in size, may not fully represent physicians from underrepresented backgrounds, such as early-career professionals or those based in rural settings. This underrepresentation limits generalizability to the full physician population. Additionally, the cross-sectional nature of the study precluded causal inference, restricting the ability to determine whether leadership training directly results in greater advocacy engagement or simply coexists with other motivating factors. Reliance on self-reported data introduced the potential for social desirability bias, especially concerning leadership traits and advocacy frequency. These limitations are common in survey-based research and underscore the importance of methodological triangulation in future studies. Future investigations would benefit from a longitudinal design to explore how leadership development impacts advocacy behavior over time, particularly across different career stages and institutional contexts. Moreover, mixed methods approach incorporating qualitative interviews could provide richer, contextualized insights into the barriers and enablers of physician advocacy, particularly from marginalized or under-resourced settings. These strategies would strengthen the evidence base needed to reform medical education and institutional policy in ways that effectively position physicians as influential contributors to public health reform.

CONCLUSION

This study concludes that physicians actively involved in leadership across clinical, academic, public health, and policy sectors exhibit strong foundational competencies in ethics, collaboration, and strategic thinking, which support their engagement in advocacy. However, deeper policy involvement remains uneven, often influenced by the professional setting and limited by systemic barriers. The findings emphasize the pivotal role of formal leadership training in enhancing advocacy participation and reveal the need for greater institutional backing to sustain these efforts. By integrating leadership and advocacy training into medical education and strengthening organizational support, healthcare systems can better empower physicians to drive meaningful policy change and contribute effectively to public health reform.

AUTHOR CONTRIBUTION

Author	Contribution
Rabia Zulfiqar*	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Nargis Khan	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
Gull Hassan Shethar	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published

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