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Impact of Self-Reported Patient-Provider Communication on the Use of High- and Low-Value Care among U.S. Adults

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Impact of Self-Reported Patient-Provider Communication on the Use of High- and Low-Value Care among U.S. Adults

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Abstract

Introduction: Effective patient-provider communication may promote high-value services while discouraging low-value services. This study examined associations between patient-provider communication and the use of high- and low-value services among U.S. adults.

Methods: A cross-sectional study using the 2010-2021 Medical Expenditure Panel Survey was conducted in 2025. Self-reported patient-provider communication was assessed in four domains (attentive listening, clear explanation, respectfulness, time spent) and categorized as low versus moderate/high. Outcomes include 10 high-value services (appropriate cancer screenings, diagnostic and preventive tests, and diabetes care) and 12 low-value services (inappropriate cancer screenings, medication use, and imaging tests). Inverse probability of treatment weighting was applied to balance covariates, followed by weighted generalized linear models to estimate adjusted mean differences in the use of high- and low-value services across levels of patient-provider communication.

Results: Compared to adults reporting low communication, those reporting moderate/high communication had consistently greater use of all 10 high-value services, with adjusted differences ranging from +1.7 percentage points (95% CI: 1.2–2.2) for blood pressure measurement to +8.8 (6.8-10.8) for breast cancer screening. For low-value services, adults reporting moderate/high communication showed increased use of antibiotics for influenza (+3.1;1.1–5.0), but lower use of opioids for headaches (-2.3;-3.7,-0.8) and three back pain–related services: opioids (-6.7;-9.8,-3.6), MRI/CT scans (-4.2;-4.7,-3.7), and radiographs (-2.3;-4.2,-0.4).

Conclusions: Better patient–provider communication was consistently associated with greater use of high-value services, but associations with low-value services were mixed. Efforts to improve communication may help promote high-value care; however, reducing low-value care may require additional, service-specific approaches beyond communication alone.

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INTRODUCTION

Effective patient-provider communication is a cornerstone of high-quality health care, promoting trust and enabling treatment plans tailored to patients' preferences, values, and needs. The National Academy of Medicine defines patient-centered care as 'respecting and responding to patients' preferences, values, and needs in all clinical decisions.'[1] This care model emphasizes active patient engagement and individualized treatment strategies, which are increasingly recognized as essential for improving health outcomes.[2] Systematic reviews have demonstrated associations between patient-centered care and improved health outcomes, such as blood pressure, pain, depression, and health-related quality of life.[3-8]

Beyond direct health outcomes, effective patient-provider communication can play a critical role in improving care delivery. Higher quality communication has been associated with fewer barriers to accessing care and fewer emergency department visits among U.S. adults,[9] highlighting its potential to improve clinical outcomes, ensure appropriate use of health services, and elevate overall quality of care. By supporting informed decision-making, effective communication may promote high-value services and reduce low-value services, thereby strengthening health system performance and optimizing resource allocation.

While the critical role of patient-provider communication is well-established, its specific relationship with the use of high- and low-value services remains understudied. Prior research has found that higher-quality communication is associated with greater use of evidence-based treatments among patients with established atherosclerotic cardiovascular disease.[10] However, most studies have focused on overall health care utilization without differentiating between high- and low-value services. Understanding how patient-provider communication specifically relates to value-based care delivery is essential for advancing patient-centered and outcome-focused health

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care delivery.[11] This study aimed to examine the association between self-reported patient-provider communication and the use of high- and low-value services among U.S. adults.

METHODS

A cross-sectional study was conducted using data from the 2010-2021 Medical Expenditure Panel Survey (MEPS), a nationally representative survey of the US civilian non-institutionalized population. The data are collected from interviews with individual households and their members, supplemented by data from hospitals, physicians, home healthcare providers, and pharmacies.[12] MEPS collected patient-clinician communication data annually until 2017 and biannually thereafter, allowing the inclusion of 10 years of data. The study used fully de-identified publicly available data and thus was exempt from Institutional Review Board review. It adhered to the STROBE reporting guideline for cross-sectional studies.

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Study Sample

After initially identifying 337,758 U.S. adults aged 18 years and older, individuals with missing data on patient-provider communication (N=205,236) and other key covariates used in statistical analyses (N=15,723) were subsequently excluded. Data on patient-provider communication were collected using the Adult Self-Administered Questionnaire (SAQ), a mail-back survey component of MEPS that typically has lower response rates, contributing to the higher proportion of missing data. The final sample was comprised of 116,799 U.S. adults with complete information. Sample characteristics between those who completed the SAQ and those who did not were compared (Appendix Text 1).

Measures

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The primary independent variable was a composite patient-provider communication score, constructed from four items on the health plan version of the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey. The CAHPS survey is designed to evaluate care quality from the patient's perspective and has been incorporated into the SAQ component of MEPS since 1995, with extensive use in research.[9,13-17] Participants assessed four communication domains (listening carefully to patients [attentive listening], explaining diagnoses and management in ways patients could understand [clear explanation], showing respect for patients' perspective [respectfulness], and spending enough time with patients [time allocation]) on a 4-point Likert scale, where 1 indicates "never" and 4 indicates "always". In previous studies, composite scores (range: 4-16) below 9 were classified as low.[9,10,17] Therefore, a primary analysis categorized scores into two groups: low (4–9) vs. moderate/high (10–16). To examine the gradient effect, the categorized scores were further divided into three groups: low (4–9), moderate (10–15), and high (16). Each individual domain was analyzed separately by categorizing responses as "always" or "usually" versus "sometimes" or "never." Detailed questions are provided in the Appendix Text 2.

Primary outcome variables included the use of high- and low-value services. Consistent with prior studies that defined high- and low-value services in MEPS based on clinical guidelines established by medical associations,[18-21] binary measures of 10 established high-value services were constructed across 3 categories: high-value cancer screenings (age-based breast,[22] cervical,[23] and colorectal cancer screening[24]), high-value diagnostic and preventive tests (dental examination, blood pressure measurement,[25] cholesterol measurement,[26] and influenza vaccine[27]), and high-value diabetes care measures (HbA1c, foot, and eye examinations).[28] Also, binary measures of 12 established low-value services were constructed across 3 categories: low-value cancer screenings (age-based cervical,[23] colorectal,[24] and prostate cancer screening[29]), low-value medication use measures (antibiotic for acute upper respiratory infection,[30,31] antibiotic for influenza[30], use of benzodiazepine for

depression,[32] use of opioid for back pain,[33] use of opioid for headache,[34] and use of nonsteroidal anti-inflammatory drug [NSAID] for individuals with hypertension, heart failure, or chronic kidney disease[32]), and low-value imaging tests (magnetic resonance imaging [MRI] or computed tomography [CT] for back pain, radiograph for back pain, and MRI or CT for headache).[35] Additionally, a composite measure for the use of any high- and low-value service in each category was constructed. Definitions used to identify each outcome measure are presented in Appendix Table 1.

For each measure, clinically eligible individuals were identified, defined as those who met criteria established by national organizations based on age, sex, and health conditions from *the International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) or *the International Classification of Diseases, Tenth Revision, Clinical Modification* (ICD-10-CM). Then, it was determined whether these clinically eligible individuals received the 10 measures of high-value care and the 12 measures of low-value care in accordance with criteria established by clinical organizations.

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Statistical Analyses

Sample characteristics and distributions of the four specific communication domains were described by overall patient-provider communication levels. Because characteristics may differ across levels of patient-provider communication, the inverse probability of treatment weights (IPTW) was used to account for differences between adults reporting low versus moderate/high communication. IPTW was calculated based on the probability of reporting low patient-provider communication, using covariates including age, sex, self-reported race/ethnicity, employment status, marital status, education, family income, health insurance, census region of residence, and number of chronic conditions (Appendix Table 2). Covariate balance was assessed in the IPTW-weighted sample using

standardized mean differences, with values below 0.1 indicating adequate balance. IPTW was then applied in generalized linear models with a logit link function and binomial distribution to estimate adjusted mean differences in the use of high- and low-value services by communication level. Year-fixed effects were included to account for unobserved factors varying across years but constant within each year.

For all analyses, MEPS survey weights were applied to produce nationally representative estimates and incorporated the complex survey design when estimating standard errors. To mitigate potential non-response bias related to the SAQ component, the study applied the final SAQ survey weights, which adjust the base weights for non-response to both MEPS and the SAQ and are calibrated to align with national population benchmarks from the Current Population Survey. Prior research demonstrated that these final weights effectively align the SAQ sample with the broader MEPS sample across nearly all characteristics and found no substantial non-response bias when estimating the use of preventive services within MEPS-SAQ data.[36]

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RESULTS

The final sample included 116,799 adults, consisting of 110,303 adults (94.5%) reporting moderate or high levels of patient-provider communication and 6,496 (5.5%) adults reporting low levels of patient-provider communication (Table 1). Before applying IPTW, weighted sample characteristics differed between adults with low versus moderate/high communication levels. After IPTW adjustment, the groups were well balanced on all observed covariates, with standardized mean differences for all variables below 0.1. Propensity score distributions showed substantial overlap between groups (Appendix Figure 1). There were minimal differences in sample characteristics

between adults reporting moderate versus high levels of patient-provider communication (Appendix Table 3).

Across each domain of patient-provider communication, more than half of adults reported experiencing the highest level of communication, responding “always”: 63.0% for listening carefully to patients, 67.1% for explaining diagnoses and management in ways patients could understand, 54.5% for showing respect for patients’ perspectives, and 62.4% for spending enough time with patients (Figure 1). Approximately 10% of the sample reported "never" or "sometimes" in these domains: 6.5% for listening carefully to patients, 6.4% for explaining diagnoses and management in ways patients could understand, 10.8% for showing respect for patients’ perspectives, and 7.8% for spending enough time with patients. The detailed distribution of domain-specific responses by patient-provider communication levels is presented in Appendix Table 4.

Adults reporting moderate/high patient-provider communication had statistically significantly greater use of all 10 high-value services than those reporting low communication (Table 2). Specifically, the use of any high-value cancer screening was 7.1 (95% CI: 6.3, 7.9) percentage points higher among those with moderate/high communication than those with low communication, including +8.8 (6.8, 10.8) for breast cancer screenings and +7.6 (6.1, 9.2) for colorectal cancer screenings. The use of any high-value diagnostic and preventive testing was 2.6 (2.1, 3.1) percentage points higher for those with moderate/high communication, ranging from +1.7 (1.2, 2.2) for blood pressure measurements to +7.1 (3.8, 10.3) for influenza vaccines. The use of any high-value diabetes care was 4.4 (-0.6, 8.6) percentage points higher for those with moderate or high communication, ranging from +5.3 (1.7, 9.0) for foot examination to +8.3 (5.6, 11) for eye examinations.

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When examining communication categorized into three levels, adults with moderate and high patient-provider communication reported higher use of nearly all high-value services compared to those with low communication. However, differences between the moderate and high groups were minimal (Appendix Table 5). Further stratified analyses by race and ethnicity revealed consistent patterns, with adults reporting moderate/high patient-provider communication exhibiting greater use of high-value services across all racial and ethnic groups (Appendix Table 6).

Domain-specific analyses showed significant and consistent associations between higher levels of patient-provider communication (usually/always vs. never/sometimes) and the use of high-value care across all communication domains (Table 3). In the clear explanation domain, differences ranged from +1.4 percentage points (0.7, 2.1) for blood pressure measurement to +7.4 (6.9, 7.8) for foot examinations. In the respectfulness domain, differences ranged from +1.4 (0.8, 2.0) for blood pressure measurement to +8.2 (3.8, 12.7) for eye examinations. For the time allocation domain, differences ranged from +1.0 (0.8, 1.2) for blood pressure measurement to +5.8 (3.2, 8.3) for breast cancer screening. Similarly, in the attentive listening domain, differences ranged from +1.1 (1.0, 1.3) for blood pressure measurement to +6.3 (1.9, 10.8) for breast cancer screening.

Among the 12 low-value services examined, adults reporting moderate/high levels of patient-provider communication had statistically significantly greater use of antibiotics for influenza (+3.1 percentage points; 1.1-5.0), but lower use of opioids for headaches (-2.3; -3.7, -0.8) and three back pain–related services: opioids (-6.7; -9.8, -3.6), MRI/CT scans (-4.2; -4.7, -3.7), and radiographs (-2.3; -4.2, -0.4) (Table 2). No significant differences were observed in the overall use of low-value cancer screenings or low-value medications. Analyses by the three patient-provider communication levels showed similar patterns (Appendix eTable 5).

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Domain-specific analyses showed that associations were strongest for the domain related to spending sufficient time with patients (Table 3). Significant differences in low-value care were observed in 9 of the 12 categories for the time allocation domain, compared to 6 for respectfulness and attentive listening and 5 for clear explanation. Notably, opioid use and MRI/CT scans for back pain were consistently lower among adults reporting moderate/high levels of communication across all domains. However, due to smaller analytic sample sizes, stratified analyses by race and ethnicity yielded inconclusive evidence regarding whether patient-provider communication had differential associations with low-value service use across racial and ethnic subgroups (Appendix eTable 6).

DISCUSSION

This study found that adults reporting moderate or high levels of patient-provider communication consistently used more high-value care across all 10 services, compared to those reporting low communication levels. However, the use of low-value services varied significantly by service type. For example, antibiotics for influenza were used more frequently, whereas 3 back pain-related low-value services—opioids, MRI/CT, and radiographs for back pain—were used less frequently among those reporting moderate or high patient-provider communication.

The findings underscore the pivotal role of patient-provider communication in improving care delivery by encouraging high-value care. Consistent with prior research,[10] this study found that enhanced patient-provider communication was associated with increased use of evidence-based care. Domain-specific analyses further reinforced these findings, underscoring the importance of fostering effective communication across all domains. Notably, the minimal differences in using high-value services between adults with moderate and high communication levels may suggest a threshold effect, indicating that moderate communication may be sufficient to encourage high-value

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services. Thus, even modest improvements in communication among adults reporting low communication could yield meaningful health benefits.

Although this study did not aim to examine the underlying mechanisms, several plausible explanations exist. Effective communication fosters a collaborative environment where patients and providers can discuss treatment options, potential risks, and benefits. Since high-value care often relies on patient trust in their provider's recommendations, clear and respectful communication strengthens this trust, increasing patients' willingness to accept and adhere to recommended care. Additionally, strong communication can help patients navigate health care systems more effectively, reducing barriers to accessing high-value services.

In contrast, the study findings suggest that patient-provider communication alone may be insufficient to significantly reduce low-value care. Similar to prior findings,[37,38] the study observed significant differences in selected low-value services, such as imaging for back pain. The inconsistent impacts across other low-value services indicate that, while effective communication may help reduce certain unnecessary services, it is not sufficient on its own to reduce low-value care comprehensively. The limited impact of Choosing Wisely initiatives—which primarily focus on education and communication—further supports the need for comprehensive approaches beyond education and communication alone.[39]

The complex interplays of financial incentives under the fee-for-service model, fear of malpractice litigations, a 'more is better' cultural norm, and patient preferences likely contribute to the inconsistent findings across service types. For example, certain low-value services, such as low-value imaging or opioid use for back pain, are predominantly driven by provider and system-level incentives.[40] Providers may overuse diagnostic tests and procedures to mitigate the risk of misdiagnosis, or health care systems may incentivize the excessive use of revenue-generating unnecessary services.[41] In contrast, other low-value services, such as prescribing antibiotics for mild respiratory symptoms or prostate-specific antigen (PSA) tests for prostate cancer screening in men

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over 70, are likely influenced by both patient demand and provider practices.[42-45] Even effective communication may not fully mitigate patient-driven requests rooted in misconceptions or reassurance-seeking behaviors. A survey of primary care providers identified patient expectations and time constraints as key barriers to discontinuing PSA screening,[46] highlighting the challenges in reducing low-value care even when strong patient-provider communication is present.

These findings underscore the necessity of combining communication-focused interventions with broader systemic reforms.[47] Fostering effective patient-provider communication remains essential for encouraging high-value care and reducing low-value care. Since vulnerable populations often use fewer high-value services,[37,38] targeted interventions, such as integrating patient-centered communication training into continuing medical education, can be critical in advancing equitable high-value care for everyone. However, implementing such interventions requires thoughtful design and strategic planning to achieve meaningful impact. For example, a randomized trial found that a peer comparison and educational intervention targeting both physicians and patients did not significantly improve shared decision-making conversations about medical testing during annual primary care visits.[48] The findings underscore persistent adoption barriers among clinicians, such as limited time to discuss potential downsides, and the need to more effectively leverage patient-clinician trust to enhance communication quality. Moreover, reducing low-value care requires comprehensive interventions beyond improving patient-provider communication. Specifically, integrating clinical decision support tools into electronic health records can assist providers in making evidence-based decisions by identifying and minimizing unnecessary tests and treatments. Additionally, behavioral economics strategies, such as clinician commitment letters and peer comparisons, have demonstrated effectiveness in reducing low-value service use.[49,50] Thus, scaling these interventions across health care settings is crucial. Finally, reforming reimbursement models to promote value-based care can address systemic drivers of

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overutilization. For example, higher payments should target preventive services with a USPSTF A or B grade, while minimal or no reimbursement should be allocated for services with a D grade.[51]

Limitations

First, the analytic sample was restricted to the non-institutionalized U.S. population, limiting the generalizability of the study findings to institutionalized populations, who may have distinct health care utilization patterns. Second, while the study used previously validated measures of patient-provider communication, these were self-reported, which may introduce reporting biases. Physicians who decline patient requests for low-value tests or treatments may be viewed as less attentive, resulting in lower communication ratings. The potential bias could partly explain the association between better-reported communication and greater use of some low-value services, such as antibiotics for viral illnesses. Furthermore, the measure of patient-provider communication assessed communication broadly, limiting the ability to evaluate the quality of communication with specific providers or provider types. Third, there are some concerns about measuring high- and low-value care. Some measures of high- and low-value services, such as cancer screenings and diabetes care, were self-reported, introducing the possibility of reporting errors. Furthermore, since MEPS only reports 3-digit ICD-9/10-CM diagnosis and procedure codes, the ability to identify all relevant exclusion criteria for low-value care was limited. For example, individuals with a previous cancer diagnosis were excluded from the eligible population based solely on a preceding year. Finally, although the IPTW approach was applied to balance underlying sociodemographic and health differences between those reporting low versus moderate/high patient–provider communication, the IPTW design can only balance measured characteristics and therefore cannot eliminate residual confounding from unmeasured factors. Also, although the IPTW approach substantially reduces the mean differences in covariates between these groups, the relatively small proportion of adults

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classified as having low patient–provider communication (5.5%) creates some imbalance in propensity score distribution, potentially reducing the precision of IPTW-adjusted estimates.

CONCLUSION

Higher levels of patient-provider communication were associated with greater use of high-value care, but its impact on low-value care was limited and inconsistent. These findings suggest that, while enhancing patient-provider communication is a promising strategy for increasing the use of high-value care, reducing low-value care requires more comprehensive and robust interventions beyond communication improvements. Strategies such as multi-component interventions targeting both patients and providers, coupled with payment reforms, may be necessary to achieve meaningful reductions in low-value care.

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Declaration of Interest:

Dr. Fendrick directs the University of Michigan Center for Value-Based Insurance Design. He reports providing consulting services to AbbVie, CareFirst Blue Cross Blue Shield, Centivo, Clover Health, Community Oncology Association, Covered California, Elektra Health, EmblemHealth, Employee Benefit Research Institute, Exact Sciences, GRAIL, Health[at]Scale Technologies, HealthCorum, Hygieia, MedZed Inc., Merck and Company, Mother Goose Health, Phathom Pharmaceuticals, Sempre Health, Silver Fern Healthcare, US Department of Defense, Virginia Center for Health Innovation, Wellth, Yale-New Haven Health System; holding equity interest in Health[at]Scale Technologies, HealthCorum, Mother Goose Health, Sempre Health, Wellth Inc., and Zansors; receiving research support from the Agency for Healthcare Research and Quality, West Health Policy Center, Arnold Ventures, National Pharmaceutical Council, Patient-Centered Outcomes Research Institute, Pharmaceutical Research and Manufacturers of America, the Robert Wood Johnson Foundation, the state of Michigan, and the Centers for Medicare and Medicaid Services; serving as coeditor for the American Journal of Managed Care; and maintaining a partnership at VBID Health.

Outside of the submitted work, Dr. Kim reports receiving research support from the National Institute of Health, American Heart Association; serving as a Method Associate Editor for the Annals of Internal Medicine and a member of the World Health Organization's Guidelines Development Group for GLP-1RAs for obesity management and the Midwest Comparative Effectiveness Public Advisory Council at the Institute for Clinical and Economic Review (ICER).

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Table 1. Sample characteristics before and after the application of inverse probability of treatment weights.

Characteristics	Weighted %				
	Before applying IPTW		After applying IPTW		
	Low	Moderate or high	Low	Moderate or high	Standardized mean difference
Age					
18-24	9.5	8.0	8.3	8.1	0.007
25-44	19.5	14.4	14.9	14.7	0.008
45-64	17.3	15.2	15.0	15.3	-0.007
65-74	18.6	17.4	17.2	17.4	-0.006
75+	18.5	19.2	19.2	19.1	0.002
Female	55.8	57.3	58.0	57.3	0.015
Race/ethnicity					
Non-Hispanic white	63.3	70.8	69.2	70.4	-0.026
Hispanic	15.7	11.3	12.2	11.5	0.021
Non-Hispanic black	12.0	10.6	11.2	10.7	0.016
Non-Hispanic Asian	5.3	4.9	5.1	4.9	0.004
Non-Hispanic other or multiple	3.6	2.5	2.4	2.5	-0.007
Employed	54.6	60.0	59.7	59.8	0.000
Married	46.7	57.6	56.6	57.1	0.000
Education					
No high school diploma	15.1	9.8	10.4	10.1	0.009
High school graduate	44.6	39.7	39.4	40.0	-0.012
College graduate or higher	40.3	50.5	50.3	50.0	0.005
Family income					
<200% of FPL	38.7	24.7	25.3	25.4	-0.001
200-399% of FPL	29.0	27.9	27.7	28.0	-0.005
≥400% of FPL	32.4	47.4	47.0	46.7	0.006
Health insurance coverage					
Any coverage	87.8	95.0	94.6	94.7	-0.003
Medicaid coverage	18.5	10.7	11.2	11.1	0.004
Medicare coverage	22.2	28.6	28.2	28.3	-0.002
Private coverage	52.1	59.1	58.8	58.8	0.001
US census region					
Northeast	16.3	18.9	19.3	18.8	0.012
Midwest	19.2	22.2	21.3	22.0	-0.018
South	39.2	36.7	37.2	36.8	0.007
West	25.3	22.2	22.2	22.3	-0.002
Number of chronic conditions					
0	55.0	55.9	55.9	55.9	0.000
1-2	34.9	36.0	36.0	36.0	0.000
3-5	9.3	7.6	7.7	7.7	0.000
6+	0.9	0.4	0.4	0.5	-0.003

Abbreviation: Federal poverty level; FPL.
Patient-physician communication was evaluated using patients' responses to the following 4 patient-clinician communication domains: (1) listening carefully to patients, (2) explaining diagnoses and management in ways patients could understand, (3) showing respect for patients' perspective, and (4) spending enough time with patients. Patients' responses were scored using a 4-point Likert scale (1-4, where 1 indicates never and 4 indicates always). Global scores range from 4 to 16. Based on existing literature, the patient-physician composite scores were categorized into the following 3 groups: low (4-9), medium (10-15), and high (16).

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Table 2. Use of high- and low-value care by patient-clinician communication levels.

Outcome	Unadjusted values: Low patient-clinician communication: Eligible sample, N	Low patient-clinician communication: Recipient, %	Moderate or high patient-clinician communication: Eligible sample, N	Moderate or high patient-clinician communication: Recipient, %	Adjusted differences between high/moderate vs. low patient-clinician communication, percentage points (95% CI)
High-value care					
Cancer screening	1576	64.4	32732	77.3	**7.1 (6.3, 7.9)**
Breast cancer screening	887	67.1	18230	80.1	**8.8 (6.8, 10.8)**
Colorectal cancer screening	1576	49.3	32732	62.8	**7.6 (6.1, 9.2)**
Diagnostic and preventive testing	6496	78.0	110303	84.8	**2.6 (2.1, 3.1)**
Dental checkup	6496	32.3	110303	43.8	**4.7 (2.2, 7.2)**
Blood pressure measurement	4298	93.0	74818	97.7	**1.7 (1.2, 2.2)**
Cholesterol measurement	3010	80.4	58539	88.7	**4.7 (4.2, 5.2)**
Influenza vaccine	1932	51.2	42479	62.8	**7.1 (3.8, 10.3)**
Diabetes care	754	85.0	14451	90.7	4.4 (-0.6, 9.3)
HbA1c measurement	496	78.4	10462	83.5	**5.5 (2.0, 8.9)**
Foot examination	754	61.7	14451	69.2	**5.3 (1.7, 9.0)**
Eye examination	735	54.6	14237	65.8	**8.3 (5.6, 11)**
Low-value care					
Cancer screening	455	32.5	14108	35.5	0.5 (-3.9, 4.9)
Cervical cancer screening	327	23.2	9524	23.0	1.7 (-2.8, 6.2)
Colorectal cancer screening	216	4.2	6874	4.7	0.8 (-3.3, 5.0)
Prostate cancer screening	128	52.3	4584	58.0	2.7 (-6.0, 11.4)
Medication use	3889	28.3	68045	25.3	-1.5 (-5.6, 2.6)
Antibiotics for acute upper respiratory infection	841	27.0	15945	30.7	0.2 (-2.3, 2.6)
Antibiotics for influenza	335	11.0	5125	15.0	**3.1 (1.1, 5.0)**
Benzodiazepine for depression	1027	30.7	12876	30.5	2.0 (-1.7, 5.6)
Opioid for back pain	1047	28.5	13976	20.9	**-6.7 (-9.8, -3.6)**
Opioid for headache	542	6.8	6581	4.9	**-2.3 (-3.7, -0.8)**
NSAID use for hypertension, heart failure, or kidney disease	2131	19.1	42352	15.9	-1.4 (-3.6, 0.9)
Imaging use	1432	17.5	19046	15.4	**-2.2 (-3.4, -1.0)**
MRI/CT for back pain	1047	11.1	13976	8.5	**-4.2 (-4.7, -3.7)**
Radiograph for back pain	1047	14.8	13976	13.3	**-2.3 (-4.2, -0.4)**
MRI/CT for headache	542	5.7	6581	5.0	0.3 (-0.8, 1.5)

Abbreviation: NSAID, nonsteroidal anti-inflammatory drug; MRI, magnetic resonance imaging; CT, computed tomography.
Note: Boldface indicates statistically significant differences at the 0.05 alpha level.

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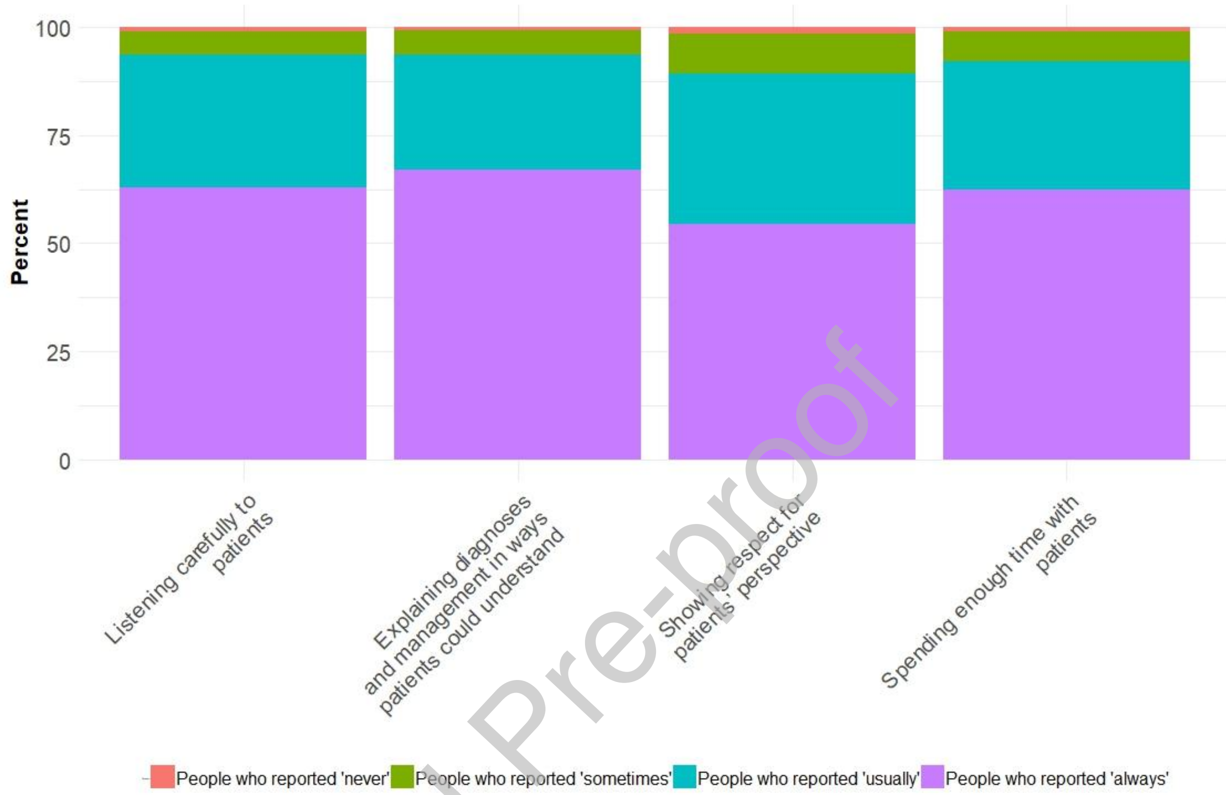
Table 3. Use of high- and low-value care by individual measure of patient-clinician communication

	Adjusted differences between 'usually'/'always' vs. 'never'/'sometimes'), percentage points (95% CI)			
Outcome	Explaining diagnoses and management in ways patients could understand	Showing respect for patients' perspective	Spending enough time with patients	Listening carefully to patients
High-value care				
Cancer screening	**4.4 (1.4, 7.4)**	**6.4 (4.1, 8.7)**	**2.6 (1, 4.2)**	**5.3 (3.6, 7)**
Breast cancer screening	**6.9 (3.9, 9.9)**	**8.2 (5.1, 11.4)**	**5.8 (3.2, 8.3)**	**6.3 (1.9, 10.8)**
Colorectal cancer screening	3.6 (-0.2, 7.5)	**6.3 (2.1, 10.6)**	2.0 (-2.3, 6.3)	**4.9 (3.9, 5.8)**
Diagnostic and preventive testing	**2.5 (1.7, 3.2)**	**2.9 (2.2, 3.6)**	**2.3 (1.7, 3)**	**2.3 (1.7, 2.8)**
Dental checkup	**4.4 (3.1, 5.7)**	**4.6 (3.2, 5.9)**	**3.5 (2, 5)**	**3.2 (2.4, 3.9)**
Blood pressure measurement	**1.4 (0.7, 2.1)**	**1.4 (0.8, 2.0)**	**1.0 (0.8, 1.2)**	**1.1 (1.0, 1.3)**
Cholesterol measurement	**3.7 (2.5, 4.9)**	**3.6 (1.6, 5.6)**	**2.6 (2.3, 2.9)**	**3.7 (2.9, 4.4)**
Influenza vaccine	**3.6 (3.0, 4.3)**	**5.7 (4.1, 7.3)**	**4.5 (4.2, 4.8)**	**4 (2.6, 5.4)**
Diabetes care	**4.1 (3.5, 4.8)**	**4.1 (1.2, 7)**	**2.6 (0.9, 4.3)**	**3.9 (1.4, 6.5)**
HbA1c measurement	**2.8 (1.7, 3.9)**	**2.7 (0.3, 5.1)**	**1.9 (0.5, 3.4)**	3.5 (-1.3, 8.3)
Foot examination	**7.4 (6.9, 7.8)**	**6.1 (3.1, 9.2)**	**4.4 (2.6, 6.2)**	**5.2 (3, 7.3)**
Eye examination	**6.9 (6.4, 7.4)**	**8.2 (3.8, 12.7)**	**4.6 (3.3, 5.9)**	**5 (1.2, 8.8)**
Low-value care				
Cancer screening	0.7 (-2.7, 4.1)	1.1 (-1, 3.1)	**2.9 (2.5, 3.3)**	**3.4 (0.7, 6)**
Cervical cancer screening	-0.2 (-4.6, 4.1)	0.6 (-0.3, 1.5)	**0.6 (0.5, 0.8)**	1.7 (-1.6, 5)
Colorectal cancer screening	1.4 (-2.1, 5)	-0.7 (-4.6, 3.1)	-0.6 (-2.8, 1.7)	2.2 (-0.7, 5.2)
Prostate cancer screening	**2.6 (0, 5.2)**	4.8 (-0.9, 10.5)	**8.9 (7.6, 10.1)**	5.7 (-0.3, 11.7)
Medication use	-0.9 (-2.6, 0.7)	-1.8 (-4.7, 1)	**-2.8 (-5.2, -0.3)**	-1.1 (-3.3, 1.1)
Antibiotics for acute upper respiratory infection	**1.8 (0, 3.6)**	0.3 (-1.4, 2)	**-2 (-2.8, -1.3)**	1 (-0.2, 2.2)
Antibiotics for influenza	0 (-3.4, 3.3)	**1.6 (0, 3.3)**	0.3 (-1.7, 2.3)	1.3 (-0.6, 3.1)
Benzodiazepine for depression	1.2 (-0.9, 3.2)	1.3 (-1, 3.7)	-0.4 (-3.5, 2.8)	-0.7 (-3.3, 1.8)
Opioid for back pain	**-3.9 (-5.7, -2.1)**	**-4.7 (-5.9, -3.4)**	**-3.5 (-4.4, -2.6)**	**-4.2 (-5, -3.5)**
Opioid for headache	-1 (-3, 1)	-1.7 (-3.8, 0.5)	-0.4 (-1.7, 0.9)	-1.2 (-3.5, 1.2)
NSAID use for hypertension, heart failure, or kidney disease	**-1 (-1.8, -0.1)**	**-2.1 (-3.6, -0.5)**	**-2.6 (-3.6, -1.7)**	**-0.9 (-1.4, -0.3)**
Imaging use	**-1.9 (-3.8, 0)**	**-2 (-2.6, -1.4)**	**-2 (-3.1, -0.9)**	**-3.2 (-3.8, -2.6)**
MRI/CT for back pain	**-2.7 (-3.4, -2.1)**	**-3.7 (-4.7, -2.8)**	**-2.5 (-3.3, -1.8)**	**-3.5 (-4.5, -2.4)**
Radiograph for back pain	0.7 (-1.7, 3.1)	**-0.6 (-1.2, 0)**	-1.9 (-3.7, 0)	**-2.5 (-3.7, -1.3)**
MRI/CT for headache	**-2.8 (-5.5, -0.1)**	-0.6 (-3.8, 2.7)	-0.1 (-0.9, 0.7)	-1.1 (-2.8, 0.7)

Abbreviation: NSAID, nonsteroidal anti-inflammatory drug; MRI, magnetic resonance imaging; CT, computed tomography.
Note: Boldface indicates statistically significant differences at the 0.05 alpha level.

Figure 1. Distribution of patient-clinician communication measures across four domains.



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Credit Author Statement

Sungchul Park and David Kim: Both authors contributed equally to conceptualization, methodology, investigation, and writing—original draft, review, and editing. Mark Fendrick contributes to conceptualization and writing—review, and editing.

Key Points

Question: Do adults with higher self-reported patient-provider communication differ in their use of high- and low-value services compared to adults with lower patient-provider communication?

Findings: In this cross-sectional study of a nationally representative sample of U.S. adults, adults reporting higher patient-provider communication consistently used more high-value services across all ten services evaluated. However, their use of low-value services varied across twelve pre-specified services.

Meaning: Improving patient-provider communication may be an effective strategy to increase the use of high-value services, while reducing low-value care likely requires additional targeted interventions beyond improved communication alone.

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Conflict of Interest:

Dr. Fendrick directs the University of Michigan Center for Value-Based Insurance Design. He reports providing consulting services to AbbVie, CareFirst Blue Cross Blue Shield, Centivo, Clover Health, Community Oncology Association, Covered California, Elektra Health, EmblemHealth, Employee Benefit Research Institute, Exact Sciences, GRAIL, Health[at]Scale Technologies, HealthCorum, Hygieia, MedZed Inc., Merck and Company, Mother Goose Health, Phathom Pharmaceuticals, Sempre Health, Silver Fern Healthcare, US Department of Defense, Virginia Center for Health Innovation, Wellth, Yale-New Haven Health System; holding equity interest in Health[at]Scale Technologies, HealthCorum, Mother Goose Health, Sempre Health, Wellth Inc., and Zansors; receiving research support from the Agency for Healthcare Research and Quality, West Health Policy Center, Arnold Ventures, National Pharmaceutical Council, Patient-Centered Outcomes Research Institute, Pharmaceutical Research and Manufacturers of America, the Robert Wood Johnson Foundation, the state of Michigan, and the Centers for Medicare and Medicaid Services; serving as coeditor for the American Journal of Managed Care; and maintaining a partnership at VBID Health.

Outside of the submitted work, Dr. Kim reports receiving research support from the National Institute of Health, American Heart Association; serving as a Method Associate Editor for the Annals of Internal Medicine and a member of the World Health Organization's Guidelines Development Group for GLP-1RAs for obesity management and the Midwest Comparative Effectiveness Public Advisory Council at the Institute for Clinical and Economic Review (ICER).

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