

Walmart + Medscape
Health Care Professionals' Perspectives on Healthcare in Rural America
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I. INTRODUCTION

The purpose of this research was to understand how rural and non-rural health care professionals perceive the accessibility and quality of care in the communities where they practice. We focused our analysis on the gaps in perceptions between rural and non-rural health care professionals to determine where there are perceived inequities in care. On a broader level, we identified issues with access to and quality of care that affect both rural and non-rural communities. The research also looked at usage and interest in health information technology (HIT), barriers to HIT use, and what health care professionals need to deliver better care.

II. RECRUITMENT AND SURVEY DESIGN

Medscape surveyed 10,045 health care professionals (HCPs) practicing in the US from December 29, 2021, to March 9, 2022. Medscape is uniquely positioned to conduct this research as the foremost online destination for US health care professionals, and the largest online membership of active US physicians. The breakdown of the recruited sample is as follows:

HCP Type	Rural	Non-Rural	Total
Primary Care Physician	801	4,212	5,013
Primary Care Nurse Practitioner	702	708	1,410
Primary Care Physician Assistant	301	577	878
Registered Nurse	505	550	1,055
Pharmacist	501	563	1,064
Optometrist	125	500	625
Total	2,935	7,110	10,045

Respondents who agreed to participate in survey research were randomly invited via email to participate in a 10-minute online survey. Physicians, Nurse Practitioners (NPs), Registered Nurses (RNs), and Optometrists (ODs) were required to see a minimum of 10 patients per week. Qualified respondents who completed the survey received a Visa gift card.

STATISTICAL METHODOLOGY

A power analysis was conducted before the study to evaluate sample size requirements. The power analysis considered two scenarios (base proportion equal to either 50% or 10%) to estimate the required effect sizes to achieve at least 80% statistical power assuming 95% confidence levels for the two-sided proportions tests comparing the groups with the target sample sizes.

Standard quality control measures included checking for clear question wording, proper question ordering, and the use of appropriate scales and response categories. In addition, during the field period, the surveys were checked to make certain that respondents were answering all questions logically and that skip pattern programming functioned as expected. No respondents were disqualified due to completing the survey in less than 25% of the median survey completion time. The median completion time was 566.5 seconds for pharmacists, 570 seconds for optometrists, and 599.5 seconds for all others; cut-off values were, respectively, 141.63, 167.5, and 149.88 seconds.

The non-discriminating 17 respondents who used the same ratings for all the questions in blocks Q9, Q10, and Q11 were removed from the final data analysis.

The weighting scheme was developed to match the gender, US Census region, and rural proportions of the survey respondents with those of the [U.S. Department of Health and Human Services, Sex, Race, and Ethnic Diversity of the U.S. Health Occupations \(2011-2015\)](#). Rural zip codes were identified based on the US Health and Human Resources Department (HRSA) designated zip codes of rural areas <https://www.hrsa.gov/rural-health/about-us/definition/datafiles.html>. Collection and reporting of race and ethnicity data in this report aligns with the 1997 OMB Standards for the Classification of Federal Data on Race and Ethnicity.

The weights were estimated using the raking procedure that iteratively adjusted weighting variables in the survey to match their marginal distributions to population targets.

Differences between subgroups of interest were analyzed using proportions tests at 95% confidence levels. The statistical modeling techniques were used to understand the effects of certain factors while adjusting for the effects of other covariates. The multivariate logistic regression models were fitted to the binary responses, and General Linear Models (GLM) were fitted to quantitative responses. Demographic factors (race, ethnicity, gender, income, years of training), location (rural or non-rural), Social Vulnerability Index (SVI) quartiles, number of patients, region, practice location setting, and work situation were used as covariates. For physicians, an additional covariate was the distance between the zip code of their current workplace and the zip code of their medical school.

III. SUMMARY OF FINDINGS

Notes:

Throughout Part 1 of this report, patient characteristics are based on health care professionals' estimates of their patient population characteristics. Comparisons of patient characteristics to government data are found in Part 2 of this report. Accessibility, quality and barriers to care are also based on the clinicians' perceptions.

Physicians, NPs and PAs who participated in this research were required to be primary care practitioners.

Health disparities between rural and non-rural communities persist, with health care professionals perceiving substantial gaps between rural and non-rural settings on many essential aspects of health care. Health care professionals' assessment of the socioeconomic profile of their patient populations and their patients' access to and quality of care is underscored by its alignment with government statistics* that quantify these disparities.

As detailed in the summary below, rural care is perceived as lower quality, with large gaps in almost all of healthcare—specialty care, urgent care, chronic care and hospitals. Rural patients are characterized as facing greater barriers in accessing care. Some barriers are structural (e.g., lack of appropriate specialists and nursing staff in the community), while some are patient-based (e.g., geriatric age, low health literacy). This inequity in access translates to just 25% of rural patients having reasonable access to mental/behavioral health care and 33% to specialty care.

Clinician use of Health Information Technology (HIT) to mitigate disparities and improve care varies, with Electronic Health Records (EHRs) and telehealth widely used in both rural and non-rural communities, while remote patient monitoring and personal health technology are less often employed. This is probably not surprising because of the payment policies in place for telehealth in rural communities, but it is notable that rural HCPs exhibit no gaps compared to non-rural HCPs. Cost, training, technology access and technological literacy challenges for both staff and patients hinder greater use. In both rural and non-rural communities, more staff, better medical equipment and expanded use of EHRs top health care professionals' suggestions for improving care. In rural communities, better community support for patients is also recommended.

Results were also examined based on SVI (SVI Quartile 1 (most vulnerable) vs. SVI Quartile 4 (least vulnerable)) and by US census regions (Midwest, Northeast, South, West). As with rural and non-rural communities, comparisons of health care professionals' perceptions based on SVI yielded a similar pattern of results. Regional differences were less striking, though the Midwest was perceived as the leader on accessibility and quality, with the West faring least well.

*Variables from the Health and Human Resources Administration's (HRSA) *Area Health Resources Files (AHRF)* were chosen as proxies for the accessibility and barriers to care variables in the survey.

Rural vs. Non-Rural Communities

Patient Characteristics

Rural patients lag non-rural patients on socioeconomic measures. They are perceived as having lower incomes, lower health literacy, and greater reliance on Medicare and Medicaid. They are also seen as less racially and ethnically diverse and as skewing older.

Accessibility of Care

Overall, accessibility for many types of care, as well as hospitals and pharmacies, is perceived as substantially lower in rural than in non-rural communities. The largest gaps in accessibility ratings (Accessible/Very Accessible) are in specialty care, chronic care, urgent care and mental/behavioral healthcare. This inequity in access translates to just 25% of rural patients having reasonable access to mental/behavioral health care and 33% to specialty care. Just over half of rural patients have good access to chronic care.

- Specialty care, chronic care and hospital accessibility ratings are lower in rural than in non-rural communities for all clinician types, as are urgent care ratings for all but optometrists.
 - Both rural and non-rural physicians more often rate specialty care and chronic care accessibility favorably than do NPs.
 - More rural and non-rural pharmacists and optometrists view mental/behavioral health care and dental care accessibility favorably than do physicians and NPs.
 - More rural and non-rural RNs, pharmacists and optometrists view dental care accessibility favorably than do physicians and NPs.

Quality of Care

Rural care is not only perceived as less accessible, but also as lower quality, with the largest gaps in some of the same areas where accessibility is poorest—specialty care, urgent care, and chronic care. The same is true for hospitals.

- Less than two-fifths of rural health care professionals rate the quality of specialty, urgent and chronic care as high (Very Good/Excellent), compared with over 50% of non-rural physicians. For hospitals, fewer than half of rural health care professionals rate quality as high, compared to nearly 70% of their non-rural counterparts.
 - Both rural and non-rural physicians more often rate the quality of specialty care and chronic care as high than do NPs, RNs and pharmacists.
 - Non-rural physicians rate quality of chronic care, specialty, hospital and vision care more favorably than all but optometrists.
 - Both rural and non-rural optometrists rate the quality of dental and vision care favorably much more often than do other health care professionals, by a large margin. Non-rural optometrists also rate urgent care, mental behavioral health care, long-term care, and pharmacies more favorably than all other health care professionals.

Barriers to Accessing Care

Rural patients are perceived to face greater challenges in accessing care. Some are structural (e.g., lack of appropriate specialists and nursing staff in the community), while some are patient-based (e.g., geriatric age, low health literacy). Affordability of medications and of healthcare are mentioned by half or more of both rural and non-rural health care professionals as Challenging/Very Challenging barriers to care. Lack of appropriate specialists in the community is frequently mentioned by rural health care professionals.

Rural health care professionals rate all but cultural and language barriers as Challenging/Very Challenging more often than do their non-rural counterparts, in line with the less diverse racial and ethnic profiles of the communities in which they practice. The most striking gap between rural and non-rural health care professionals is on lack of appropriate specialists in the community, where more than half of rural physicians see a significant challenge, compared to about a fifth of non-rural physicians.

Most Vulnerable vs. Least Vulnerable Communities Based on Social Vulnerability Index (SVI)

[Note: Comparisons are between health care professionals practicing in SVI Quartile 1 (most vulnerable) vs. those practicing in SVI Quartile 4 (least vulnerable)].

Patient Characteristics

Patients in the most vulnerable SVI quartile are perceived to lag those in the least vulnerable quartile on socioeconomic measures. They are characterized as having lower incomes, and greater reliance on Medicaid. Their health literacy is seen as markedly lower –40% of patients in the most vulnerable quartile are perceived to have low/very low health literacy, compared to 16% in the least vulnerable quartile. They are also characterized as more racially/ethnically diverse.

Accessibility of Care

Accessibility for certain types of care is considered more challenging for those in the most vulnerable SVI quartile compared with those in the least vulnerable quartile, with meaningful differences in Accessible/Very Accessible ratings at the clinician level on long-term, vision, dental and specialty care.

- Long-term, vision and dental care quality rating gaps are substantial across most types of health care professionals.
 - Gaps on specialty care are largest for NPs and RNs.

Quality of Care

Perceptions of quality of care in the most vulnerable quartile lag that in the least vulnerable quartile across the board, with gaps in quality more striking than gaps in accessibility. Some of the largest gaps between the most vulnerable and least vulnerable quartiles on Very Good/Excellent quality are on the same types of care where accessibility gaps are largest -- long term, specialty and dental care. Hospital quality also shows a substantial gap.

- On the clinician level, many types of care show large gaps. Gaps in assessment of quality of care tend to be smaller for physicians than for other health care professionals.

Barriers to Accessing Care

Affordability of healthcare and of medications are considered top tier barriers for both the least and most vulnerable quartiles. Low health literacy is seen as much more of a challenge in the most vulnerable quartile, with over twice as many health care professionals in the most vulnerable quartile rating it Challenging/Very Challenging compared with the least vulnerable quartile (48% vs. 23%). Lack of insurance and lack of appropriate specialists in the community also show substantial gaps.

- At the clinician level, NPs in the most vulnerable quartile more often report barriers to be Challenging/Very Challenging for low health literacy, geriatric age, lack of transportation and cultural barriers than do their counterparts in the least vulnerable quartile.

Regional Comparisons (Midwest vs. Northeast vs. South vs. West)

Patient Characteristics

The most striking differences by region are in racial and ethnic diversity. The Midwest is the least racially and ethnically diverse, with nearly 70% of the patient population characterized as Caucasian/White and 12% Hispanic/Latino. The Northeast follows, though its proportion of Hispanics/Latinos is higher (20%).

More diversity is reported in the South and West. The South is characterized as having the highest proportion of African Americans (26%), while the West is seen as having the highest proportion of Asians (13%) and Hispanics/Latinos (28%). In addition, health literacy is perceived to be somewhat lower in the South.

Accessibility of Care

Across regions, differences in accessibility on individual types of care tend to be small, though the pattern of results suggest that accessibility (Accessible/Very Accessible) is perceived as highest in the Midwest and lowest in the West.

- The Midwest holds the overall lead in primary and long-term care accessibility. It also performs well on chronic care, home healthcare and pharmacies.
- The Northeast is perceived as leader in chronic care access, but fares less well on dental, vision and home healthcare.
- The South performs well on home health care and pharmacies, and less well on vision care, chronic care.
- Notably, RNs tend to perceive the South as stronger than other regions on many attributes. The West is perceived least well on accessibility. It trails all other regions on primary, specialty and long-term care access.

Quality of Care

On quality of care, the Midwest leads all regions for long-term and primary care and tends to be a top performer on most other types of care. In contrast, the West tends to lag other regions, with the South and Northeast falling in between.

The Midwest holds the overall lead in perceived quality of primary, long-term, mental behavioral and hospital care and performs well on vision care, urgent care, home healthcare and pharmacies.

The Northeast is seen as a leader in specialty care and chronic care but trails all other regions on dental and vision care.

- Notably, optometrists perceive the Midwest and the South as outperforming the Northeast on many attributes.

The South performs well on primary care, vision care, urgent care, home healthcare and pharmacies, but trails on specialty care and chronic care.

The West trails all other regions on quality of chronic care, mental behavioral healthcare, and long-term care. It is also perceived less well on the remaining types of care.

Barriers to Accessing Care

Overall, differences among the regions in terms of barriers to care are small, though in line with the accessibility and quality of care perceptions of health care professionals.

Clinicians in the West more often perceive cultural barriers, language barriers, wait time to secure an appointment and lack of appropriate specialists as challenging.

In the South, lack of insurance, affordability of healthcare, disability and lack of appropriate specialists are more often challenging, while lack of nursing staff is less challenging than in other regions.

In the Northeast, language barriers, disability and geriatric age are more often perceived as challenging than in other regions. Lack of insurance and lack of specialists are seen as less challenging.

- Notably, PAs tend to see the Northeast as having greater challenges than other areas, particularly for cultural and language barriers and lack of transportation.

The Midwest is perceived to have lesser degrees of challenge than other regions across barrier types, except for on lack of nursing staff.

Rural vs. Non-Rural Health Care Professionals - Health Information Technology (HIT)

Usage of HIT is generally similar across non-rural and rural health care professionals, though there are opportunities for increased use in remote patient monitoring and personal health technology for monitoring patients across the board, as well as in other areas for specific clinician types.

Electronic Health Records (EHRs)

EHRs are widely used across the board. Among pharmacists, EHRs are used less in rural settings, though most who don't use them are interested in use.

About three-quarters of health care professionals are comfortable/very comfortable using EHRs.

Rural physicians and optometrists less often perceive EHR use as beneficial to patient outcomes than do their non-rural counterparts.

The main barriers to EHR use are that it slows workflow and detracts from the HCP patient point of care experience.

Telehealth

Telehealth is widely used by both rural and non-rural physicians, NPs and PAs, and by a minority of optometrists. About a third of optometrists express interest in their use.

The majority of health care professionals are comfortable using telehealth and most find it beneficial, with optometrists lagging other clinicians on these measures.

Remote Patient Monitoring

Remote patient monitoring is used by no more than a third of both rural and non-rural health care professionals, with about half of physicians, NPs and PAs expressing interest in use. At present, comfort levels using remote patient monitoring are low across the board with only about half of health care professionals comfortable using it.

Personal Health Technology to Monitor Patients

A minority of health care professionals currently use personal health technology to monitor patients, though about half are interested in using it. About two-thirds of health care professionals are Comfortable/Very Comfortable using it.

Decision Support Systems

Decision support systems are widely used by physicians, NPs and PAs, with lower use among RNs and pharmacists. A small minority of optometrists currently use them.

There are opportunities for increased use among rural pharmacists, as well as rural and non-rural RNs and optometrists, where 30% or more express interest in use.

E-prescribing/e-ordering

E-prescribing/e-ordering is widely used, although less so among non-rural optometrists. A quarter of non-rural optometrists express interest in use. The majority are comfortable using it.

Barriers to HIT Use

Among both rural and non-rural physicians, the largest practice-based barriers to HIT use are cost and training, followed by technology challenges (staff comfort and lack of technology infrastructure).

Lack of technology access and technological literacy, followed by low health literacy and patient disinterest are the largest patient-based barriers to HIT use for both rural and non-rural health care professionals. Rural communities face higher barriers on these measures.

- Significant gaps are evident between rural and non-rural physicians on patient technological access and literacy.

Factors To Improve Quality of Care

In terms of factors that would improve the quality-of-care health care professionals provide, More Staff ranks highest for both rural and non-rural physicians. Better Community Support for Patients ranks second for rural health care professionals, while Smaller Patient Load ranks second for non-rural health care professionals.

From a technology perspective, both rural and non-rural health care professionals agree that better medical equipment and expanded use of their EHR system are top tier in terms of improving the quality of care they can provide. Faster, more reliable broadband/internet was also often cited, more so by rural than by non-rural health care professionals.

Clinicians were also asked to elaborate on what would most help them improve the quality of care they provide. Clinicians emphasized the need for more staff, lower patient loads and more support for patients. Affordable/universal healthcare, lower medication costs, better insurance coverage for patients, better reimbursement and better patient health literacy were among the improvements mentioned.

VI. SURVEY RESULTS

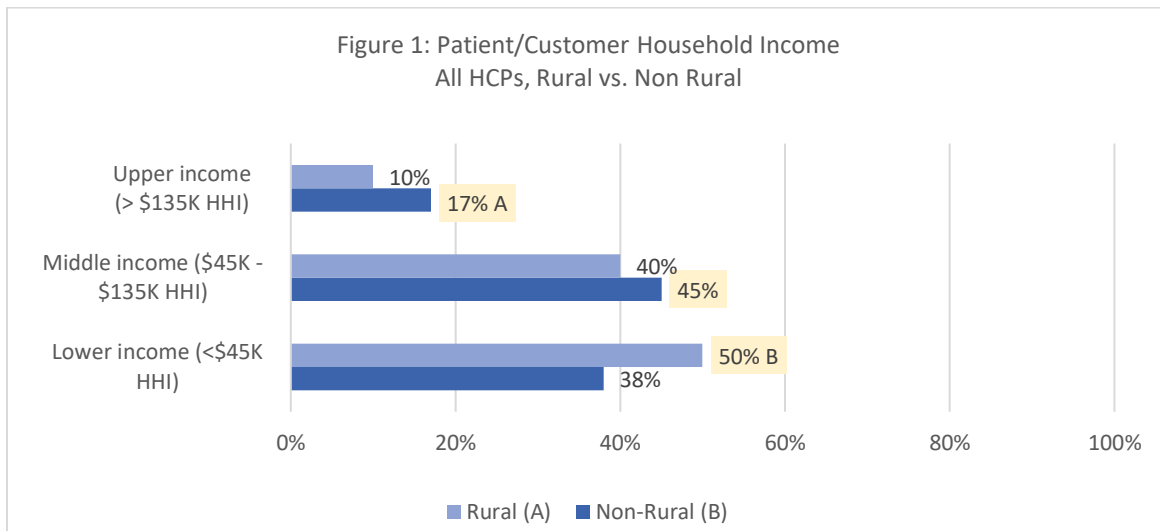
Rural vs. Non-Rural Health Care Professionals

Patient Population Characteristics

Clinicians perceive rural patients as lagging non-rural patients on socioeconomic measures.

- They are characterized as having lower incomes, with 50% estimated to have household incomes of less than \$45,000, compared with 38% of non-rural patients. [Figure 1]
- Their health literacy is also considered lower, with 37% estimated to have Low/Very Low health literacy, compared with 24% of non-rural patients. [Figure 1.1]
- Rural patients are less often perceived to have private insurance (30% vs. 39%) and more often to rely on Medicaid (22% vs. 16%). [Figure 1.2]
- They are also characterized as less racially/ethnically diverse, with 73% identified as Caucasian/White, compared to 57% of non-rural patients. [Figure 1.3]

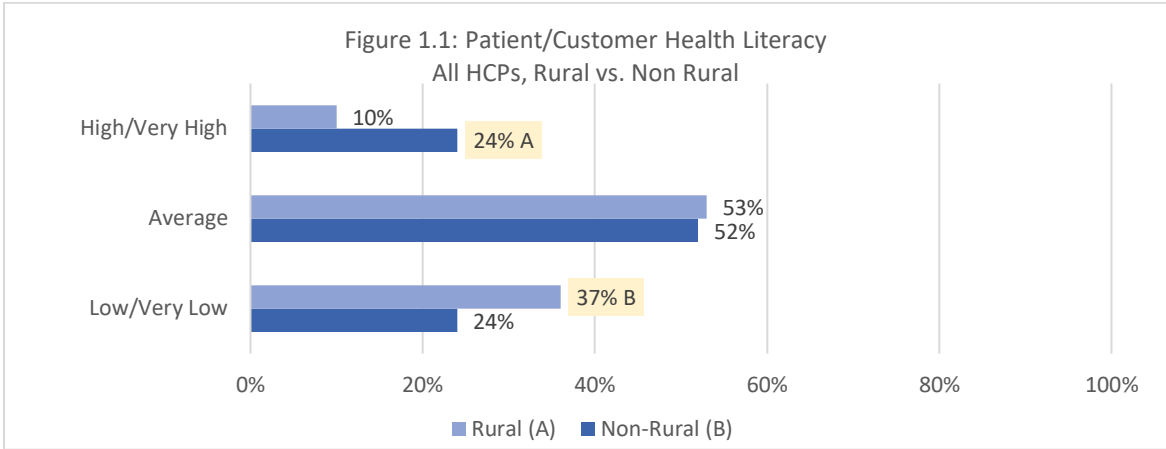
Note: In Figure 1 and subsequent figures, statistically significant differences are noted with letters (e.g., A, B) based on proportion tests at the 95% confidence level, and with yellow shading for differences accounting for covariate influence. Results may not total to 100% due to rounding.



Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Rural (n=2,935), Non-Rural (n=7,110)

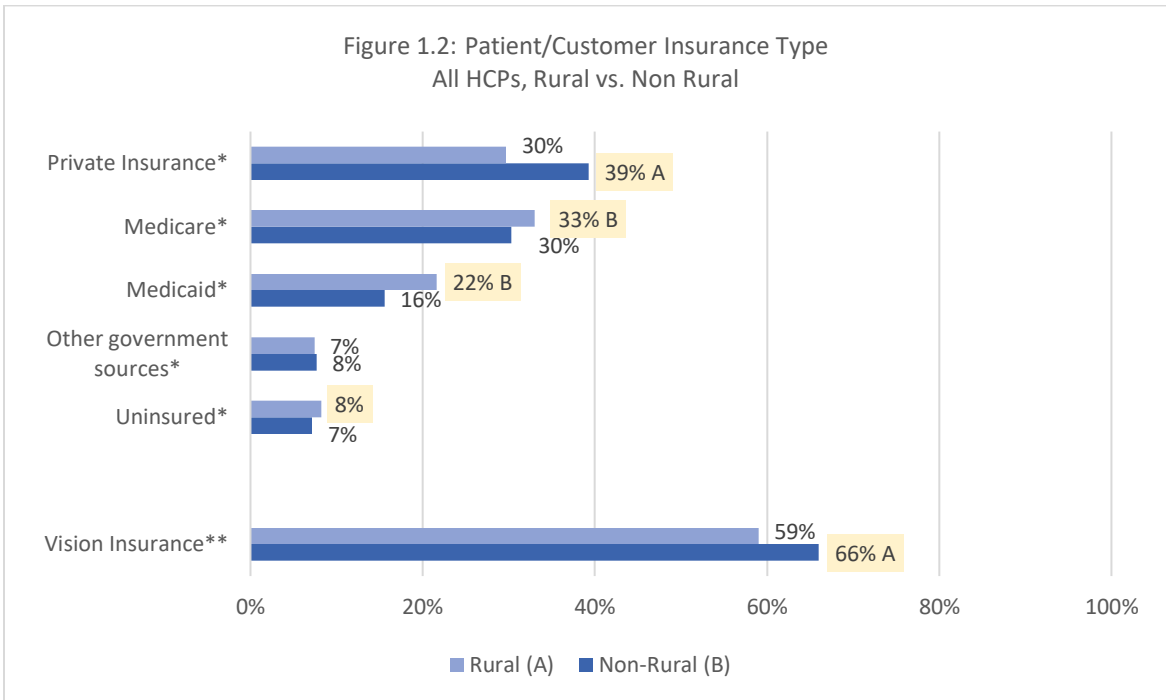
Q8: Approximately what percentage of your patients/customer are in each of the following household income (HHI) groups?



Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q7: In general, how would you describe the health literacy level of your patients/customers?



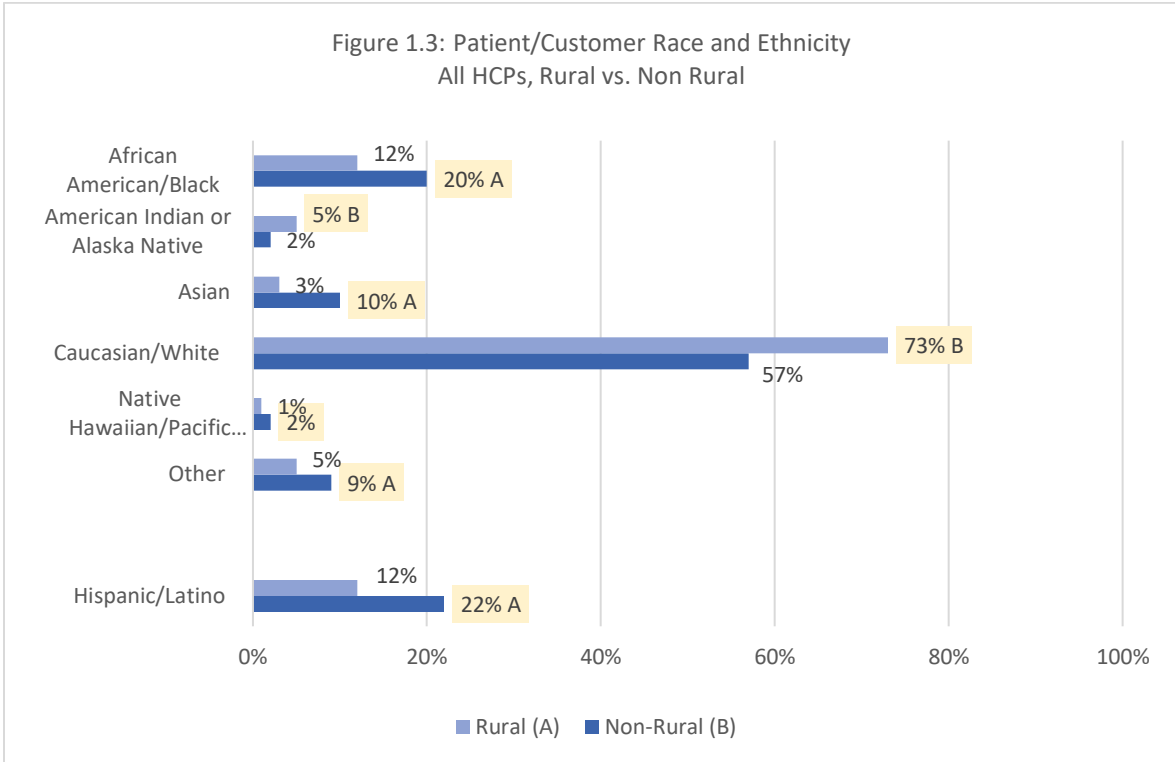
Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Physicians, NPs, PAs, and RNs (n=1,812 Rural, n=7,314 Non-Rural)

Base: Optometrists (n = 125 Rural, n=500 Non-Rural)

Q1: Approximately what percentage of your patients are primarily covered by . . . ? Your best estimate is fine.

Q2: Approximately what percentage of your patients have vision insurance? Your best estimate is fine.

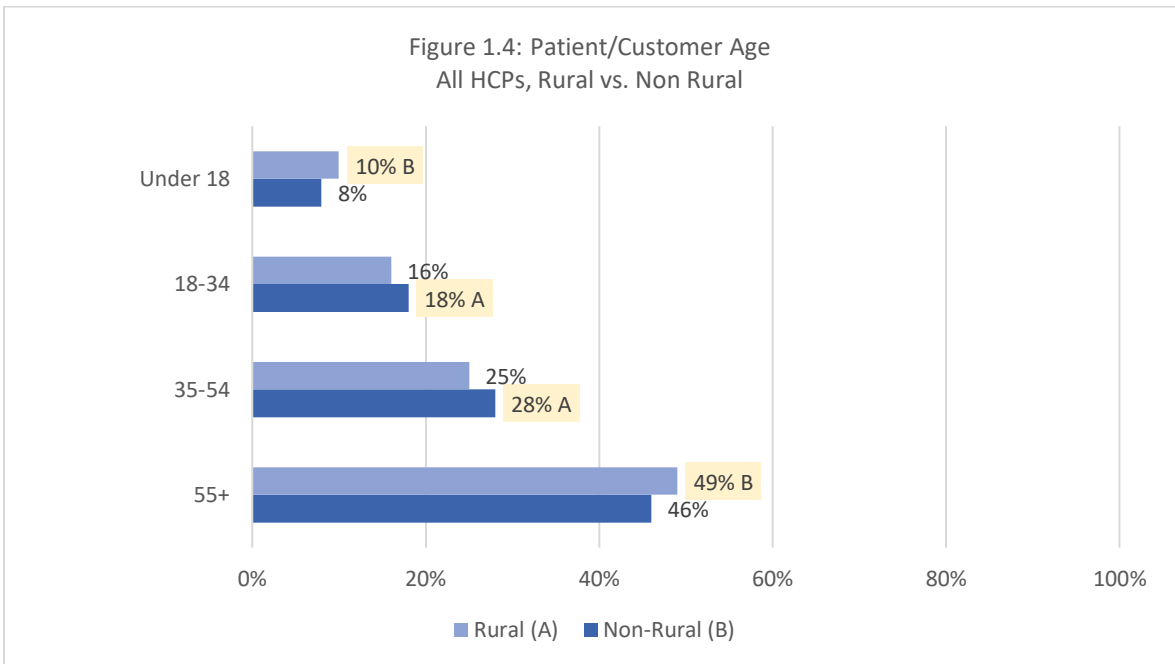


Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q4: What percentage of your patient population/customer base is . . . ?

Q5: What percentage of your patients/customer base are Hispanic/Latino/a, or of Spanish origin?



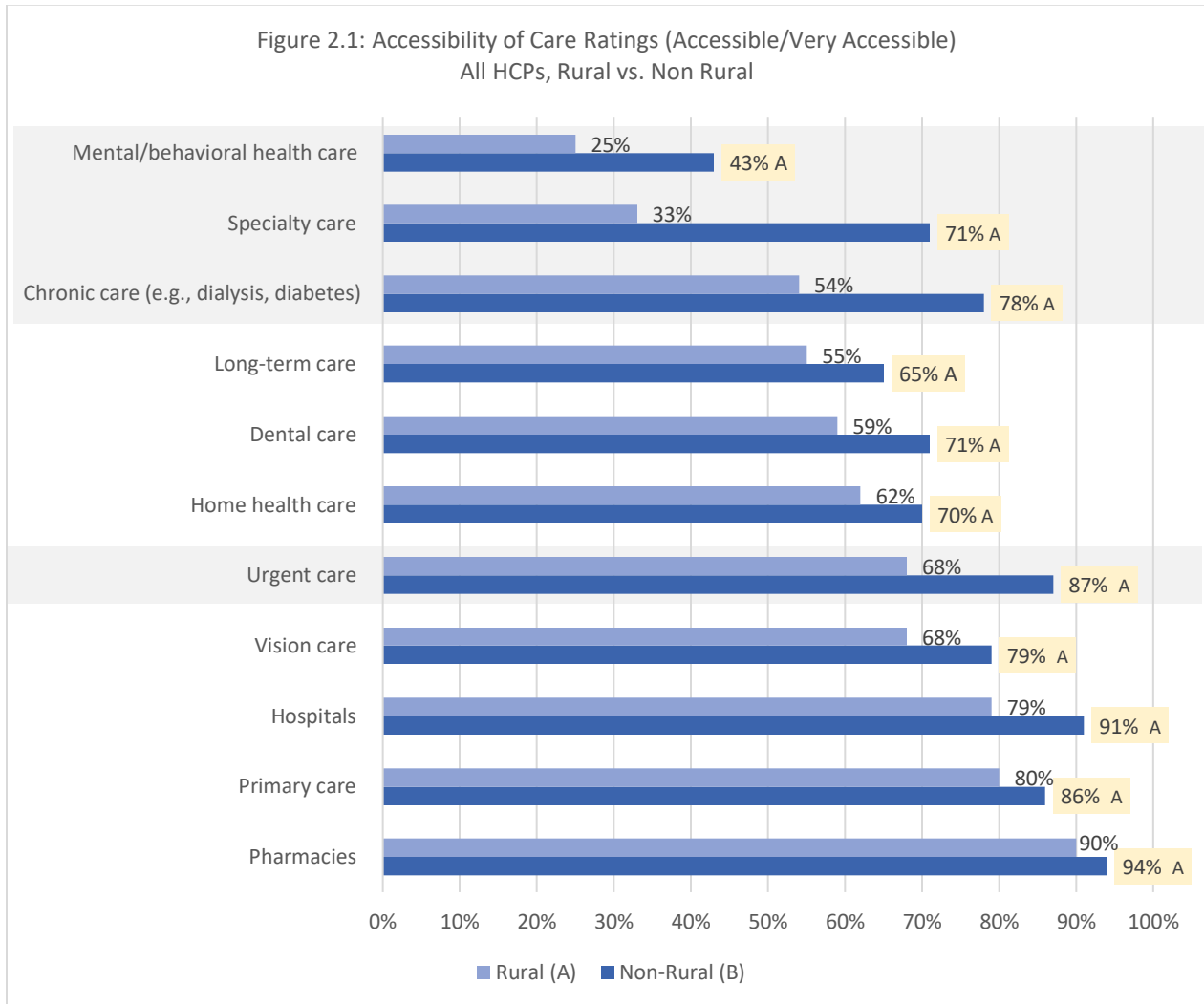
Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q3: What is the age breakdown of your patient/customer population? Your best estimate is fine.

Accessibility of Care by Community Type

Across health care professionals, accessibility for many types of care, as well as hospitals and pharmacies, is considered substantially lower in rural communities. The largest gaps are in specialty care (38 points), chronic care (24 points), urgent care (19 points), and mental/behavioral healthcare (18 points). This inequity in access translates to just 25% of rural patients having strong access to mental/behavioral health care and 33% to specialty care.



Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q9: Please rate the accessibility of each of the following in the community where you primarily work.

Notably, across clinician types, specialty care, chronic care and hospital accessibility ratings are lower in rural than in non-rural communities. All clinician types show gaps of 30 percentage points or more on specialty care. Similarly, for chronic care, the gaps between rural and non-rural health care professionals are 20 percentage points or more.

Table 1: Accessibility of Care - T2B Ratings (Accessible/Very Accessible)				
Type of Care	HCP Type*	Rural (A)	Non-Rural (B)	% Point Gap (A)– (B)
Mental/behavioral health care	Physician (PC)	20%	39% A	-19
	Nurse Practitioner (PC)	21%	37% A	-16
	Pharmacist	36%	54% A	-18
Specialty care	Physician (PC)	38%	77% A	-39
	Nurse Practitioner (PC)	25%	66% A	-41
	Physician Assistant (PC)	34%	67% A	-33
	Registered Nurse	32%	68% A	-36
	Pharmacist	24%	57% A	-33
	Optometrist	40%	76% A	-36
Chronic care (e.g., dialysis, diabetes)	Physician (PC)	58%	80% A	-22
	Nurse Practitioner (PC)	46%	76% A	-30
	Physician Assistant (PC)	49%	72% A	-23
	Registered Nurse	56%	79% A	-23
	Pharmacist	46%	70% A	-24
	Optometrist	60%	82% A	-22
Long-term care	Physician (PC)	52%	63% A	-11
	Nurse Practitioner (PC)	53%	65% A	-12
	Pharmacist	55%	61% A	-6
Dental care	Physician (PC)	54%	69% A	-15
	Nurse Practitioner (PC)	52%	65% A	-13
	Optometrist	86%	93% A	-7
Home health care	Physician (PC)	65%	72% A	-7
	Nurse Practitioner (PC)	61%	69% A	-8
	Pharmacist	51%	61% A	-10
Urgent care	Physician (PC)	69%	89% A	-20
	Nurse Practitioner (PC)	65%	85% A	-20
	Physician Assistant (PC)	69%	86% A	-17
	Registered Nurse	67%	85% A	-18
	Pharmacist	64%	82% A	-18
Vision care	Physician (PC)	68%	80% A	-12
	Nurse Practitioner (PC)	62%	73% A	-11
	Physician Assistant (PC)	60%	76% A	-16
	Optometrist	88%	97% A	-9
Hospitals	Physician (PC)	82%	92% A	-10
	Nurse Practitioner (PC)	74%	90% A	-16
	Physician Assistant (PC)	75%	89% A	-14
	Registered Nurse	80%	92% A	-12
	Pharmacist	75%	88% A	-13
	Optometrist	80%	92% A	-12
Primary care	Physician (PC)	76%	84% A	-8
	Registered Nurse	83%	89% A	-6
Pharmacies	Physician (PC)	90%	95% A	-5
	Nurse Practitioner (PC)	88%	94% A	-6
	Registered Nurse	90%	93% A	-3

*(PC) = Primary care

Note: All comparisons are statistically different after accounting for covariate influence.

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q9: Please rate the accessibility of each of the following in the community where you primarily work.

Accessibility of Care by Health Care Professional Type within Rural and Non-Rural Communities

Within both rural and non-rural communities, health care professionals vary in the degree to which they perceive access to care as Accessible/Very Accessible.

Notably:

- Non-rural physicians and optometrists more often rate chronic care accessibility favorably than do other health care professionals.
- Both rural and non-rural physicians more often rate specialty care and chronic care accessibility favorably than do NPs.
- More rural and non-rural pharmacists and optometrists view mental/behavioral health care and dental care accessibility favorably than do physicians and NPs.
- More rural and non-rural RNs, pharmacists and optometrists view dental care accessibility favorably than do physicians and NPs.
- Non-rural optometrists consider dental, vision, and mental behavioral health care to be more accessible than do all other health care professionals.

Table 1.1: Accessibility of Care - T2B Ratings (Accessible/Very Accessible)												
	Rural						Non-Rural					
	Phys (%)	NPs (%)	PAs (%)	RNs (%)	PHs (%)	ODs (%)	Phys (%)	NPs (%)	PAs (%)	RNs (%)	PHs (%)	ODs (%)
	A	B	C	D	E	F	A	B	C	D	E	F
Total Respondents	801	702	301	505	501	125	4212	708	577	550	563	500
Mental/behavioral health care	20	21	25	31 A	36 A B	49 A B C	39	37	42	44 B	54 A B C D	69 A B C D E
Specialty care	38 B E	25	34	32	24	40	77 B C D E	66 E	67 E	68 E	57	76 B C D E
Chronic care (e.g., dialysis, diabetes)	58 B	46	49	56	46	60	80 B C E	76	72	79 C E	70	82 B C E
Dental care	54	52	55	67 A B	76 A B C	86 A B C D	69	65	67	73 B C	77 A B C	93 A B C D E
Vision care	68	62	60	72	69	88 A B C E	80 B E	73	76	77	74	97 A B C D E

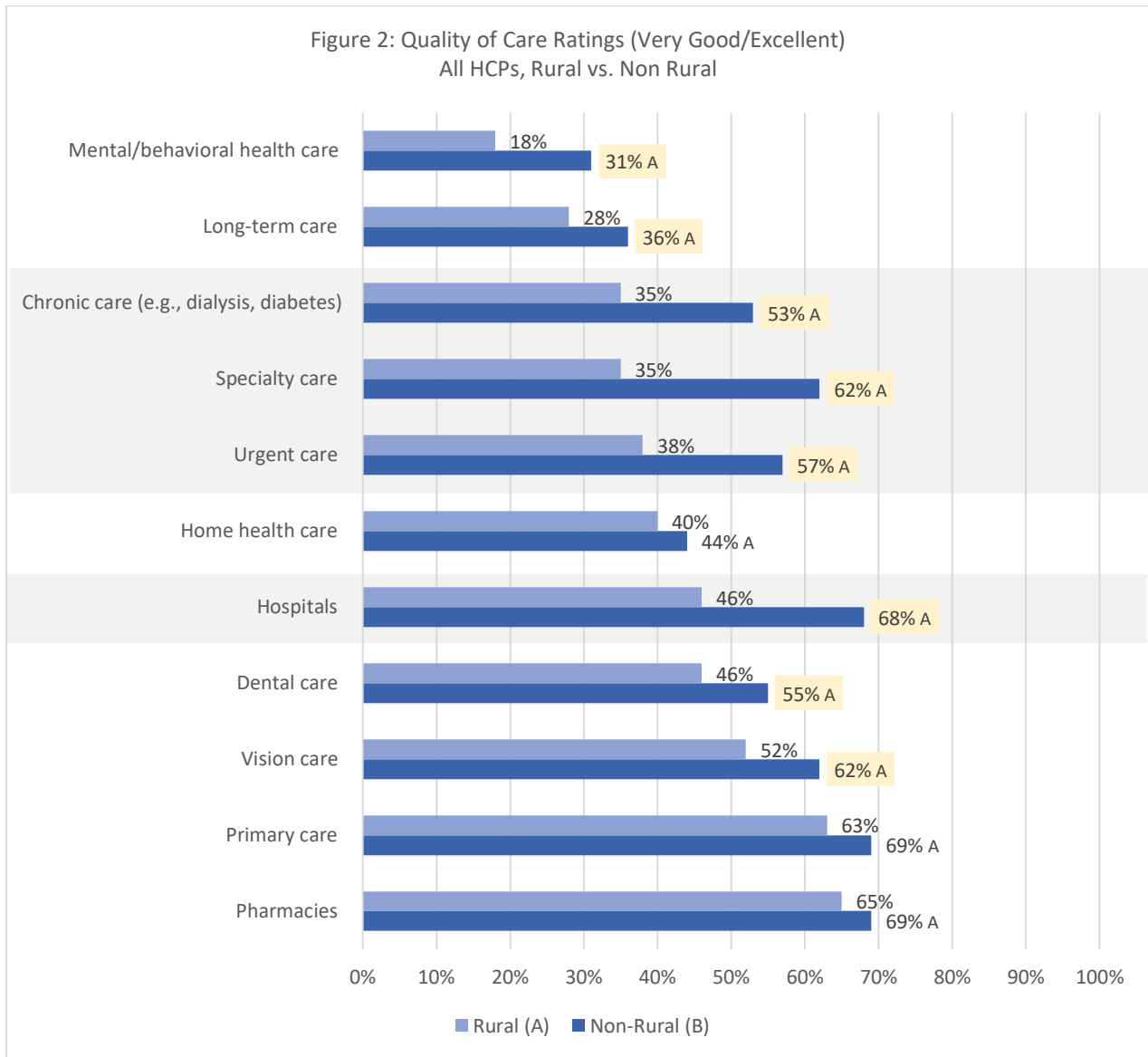
Base: Rural (n=2,935), Non-Rural (n=7,110)

Q9: Please rate the accessibility of each of the following in the community where you primarily work.

See Appendix, Table 1.1, p.65).

Quality of Care by Community Type

Rural care is not only perceived as less accessible, but also as lower quality, with the largest gaps in Very Good/Excellent ratings in some of the same areas where accessibility is poorest -- specialty care (35% R vs. 62% NR), urgent care (38% R vs. 57% NR), and chronic care (35% R vs. 53% NR). The same is true for Hospitals (46% R vs. 68% NR).



Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q10: Please rate the general quality of each of the following in the community where you primarily work.

Across clinician type, specialty care, urgent care, and hospital quality ratings (Very Good/Excellent) are lower in rural than in non-rural communities. The gaps between rural and non-rural health care professionals are 20 percentage points or more for both specialty care and hospitals.

Note: For Table 2 and subsequent similar tables, Ratings are shown for clinician types where differences are statistically significant based on covariate influence.

Table 2: Quality of Care Ratings (Very Good/Excellent)				
Type of Care	HCP Type*	Rural (A)	Non-Rural (B)	% Point Gap (A) – (B)
Mental/behavioral health care	Physician (PC)	18%	29% A	-11
	Pharmacist	21%	35% A	-14
Chronic care (e.g., dialysis, diabetes)	Physician (PC)	41%	57% A	-16
	Nurse Practitioner (PC)	29%	47% A	-18
	Registered Nurse	27%	46% A	-19
	Pharmacist	27%	45% A	-18
Specialty care	Physician (PC)	41%	69% A	-28
	Nurse Practitioner (PC)	29%	55% A	-26
	Physician Assistant (PC)	38%	58% A	-20
	Registered Nurse	27%	52% A	-25
	Pharmacist	20%	47% A	-27
	Optometrist	39%	70% A	-31
Urgent care	Physician (PC)	38%	57% A	-19
	Nurse Practitioner (PC)	36%	55% A	-19
	Physician Assistant (PC)	43%	57% A	-14
	Registered Nurse	32%	53% A	-21
	Pharmacist	36%	53% A	-17
	Optometrist	50%	71% A	-21
Hospitals	Physician (PC)	52%	72% A	-20
	Nurse Practitioner (PC)	37%	64% A	-27
	Physician Assistant (PC)	42%	63% A	-21
	Registered Nurse	39%	63% A	-24
	Pharmacist	43%	63% A	-20
	Optometrist	48%	75% A	-27
Dental care	Nurse Practitioner (PC)	39%	50% A	-11
Vision care	Physician (PC)	54%	64% A	-10

*(PC) = Primary care

Note: All comparisons are statistically different after accounting for covariate influence.

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q10: Please rate the general quality of each of the following in the community where you primarily work.

Quality of Care by Health Care Professional Type within Rural and Non-Rural Communities

Within both rural and non-rural communities, health care professionals vary in the degree to which they rate the quality of care in their community as Very Good/Excellent. Of note:

- A larger proportion of both rural and non-rural physicians rate the quality of specialty care and chronic care favorably than do NPs, RNs, and pharmacists.
- Non-rural physicians more often rate vision care and hospitals favorably than other health care professionals, aside from optometrists.
- Both rural and non-rural optometrists rate the quality of dental and vision care favorably more often than do other health care professionals, by a large margin.
- Non-rural optometrists also rate urgent care, mental behavioral health care, long-term care, and pharmacies more favorably than all other health care professionals (see Appendix, Table 2.1, p.66).

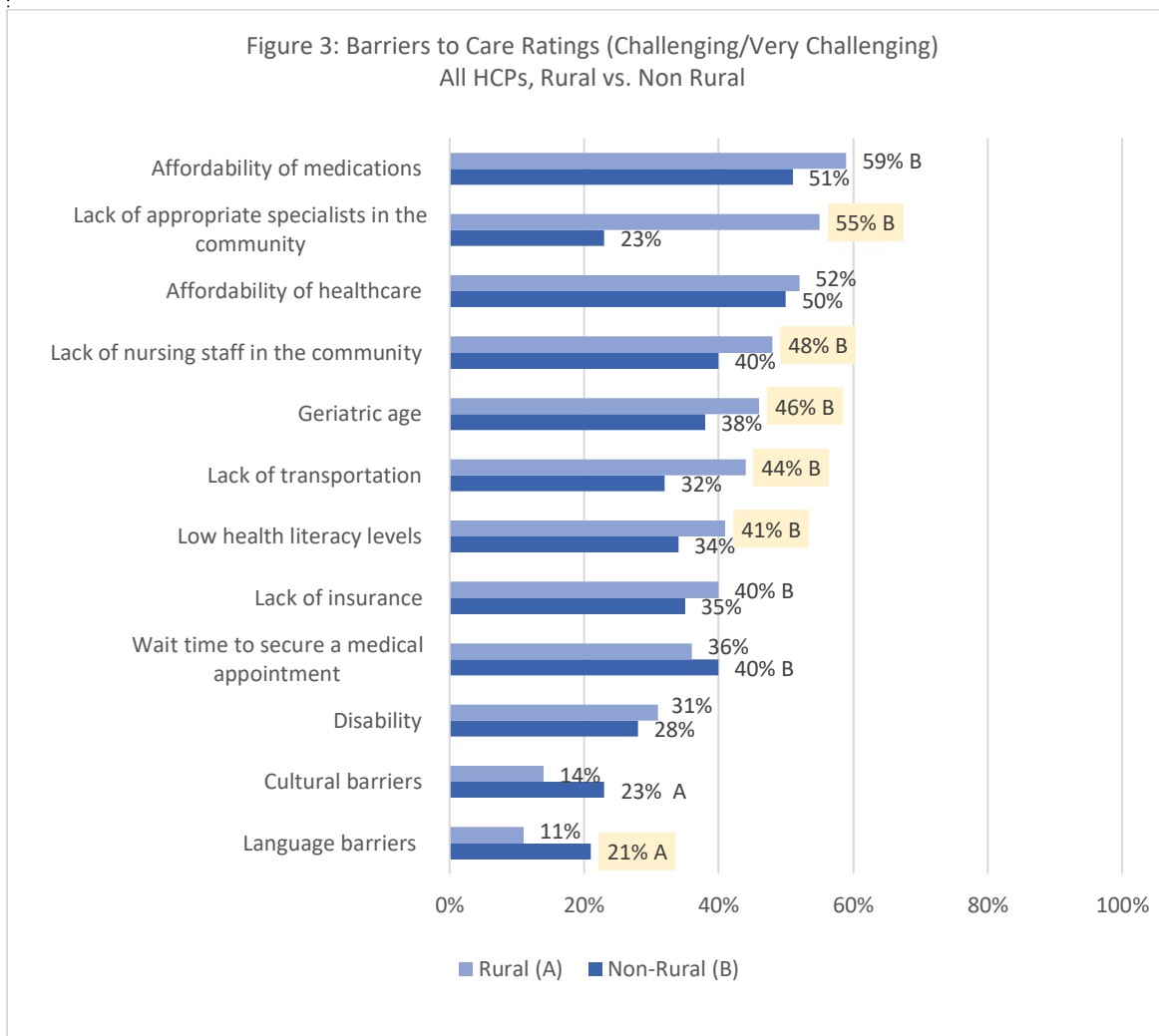
Table 2.1: Quality of Care – T2B Ratings (Very Good/Excellent)												
	Rural						Non-Rural					
	Phys (PC) (%)	NPs (PC) (%)	PAs (PC) (%)	RNs (%)	PHs (%)	ODs (%)	Phys (PC) (%)	NPs (PC) (%)	PAs (PC) (%)	RNs (%)	PHs (%)	ODs (%)
	A	B	C	D	E	F	A	B	C	D	E	F
<i>Total Respondents</i>	801	702	301	505	501	125	4212	708	577	550	563	500
Chronic care (e.g., dialysis, diabetes)	41 B D E	29	33	27	27	41	57 B C D E	47	47	46	45	59 B C D E
Specialty care	41 B D E	29	38 E	27	20	39 E	69 B C D E	55 E	58 E	52	47	70 B C D E
Hospitals	52 B D	37	42	39	43	48	72 B C D E	64	63	63	63	75 B C D E
Dental care	47	39	43	40	52	73 A B C D E	55 B	50	52	50	53	79 A B C D E
Vision care	54 D	45	50	39	49	87 A B C D E	64 B C D E	55	57	53	53	90 A B C D E

Q10: Please rate the general quality of each of the following in the community where you primarily work.

Barriers to Care by Community Type

Rural patients face greater challenges in accessing care. Some are structural (e.g., lack of appropriate specialists and nursing staff in the community), while some are patient-based (e.g., geriatric age, low health literacy).

Ratings of Challenging/Very Challenging are generally higher among rural health care professionals, except for cultural and language barriers, which non-rural health care professionals more often report as highly challenging. The most striking difference between rural and non-rural health care professionals is on lack of appropriate specialists in the community, where Challenging/Very Challenging ratings showed a 32-percentage point gap (55% R, 23% NR). The only structural attribute where rural patients have a slight advantage is Wait Time to Secure a Medical Appointment (40% vs 36%).



Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q11: How challenging are each of the following for people in your community when it comes to access to healthcare?

At the clinician level, there are gaps for both structural and patient-related barriers.

Structural barriers:

- Lack of appropriate specialists (for all clinicians)
 - Gaps between rural and non-rural ratings of Challenging/Very Challenging are largest for this barrier.
- Wait time to secure an appointment (for NPs and RNs)
- Lack of nursing staff (for physicians and PAs)

Patient-related Barriers:

- Low health literacy (for NPs)
- Geriatric age (for physicians and PAs)
- Lack of transportation (for physicians)
- Disability (for PAs)
- Cultural Barriers (for PAs)
- Language barriers (for physicians)

Table 3: Barriers to Accessing Care (Top 2 Box – Challenging/Very Challenging)				
Type of Care	HCP Type*	Rural (A)	Non-Rural (B)	% Point Gap (A) – (B)
Lack of appropriate specialists in the community	Physician (PC)	53% B	19%	34
	Nurse Practitioner (PC)	65% B	30%	35
	Physician Assistant (PC)	58% B	27%	31
	Registered Nurse	56% B	26%	30
	Pharmacist	56% B	29%	27
	Optometrist	38% B	17%	21
Wait time to secure a medical appointment	Nurse Practitioner (PC)	36%	43% A	-7
	Registered Nurse	38%	46% A	-8
Lack of nursing staff in the community	Physician (PC)	48% B	37%	11
	Physician Assistant (PC)	52% B	40%	12
Low health literacy levels	Nurse Practitioner (PC)	51% B	37%	14
Geriatric age	Physician (PC)	46% B	37%	9
	Physician Assistant	47% B	37%	10
Lack of transportation	Physician (PC)	42% B	29%	13
Disability	Physician Assistant (PC)	32% B	25%	7
Cultural barriers	Physician Assistant (PC)	16%	24% A	-8
Language barriers	Physician	9%	19% A	-10

*(PC) = Primary care

Note: All comparisons are statistically different after accounting for covariate influence.

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q11: How challenging are each of the following for people in your community when it comes to access to healthcare?

Barrier to Care by Health Care Professional Type within Rural and Non-Rural Communities

Barriers considered Challenging/Very Challenging vary by type of health care professional. Of note:

- Non-rural RNs rate barriers to care as Very/Challenging more often than do non-rural physicians, and often times non-rural NPs.
- Both rural and non-rural RNs consider lack of nursing staff equally challenging as well as more challenging than other types of health care professionals.
- Both rural and non-rural optometrists routinely rate the degree of challenge lower than do other health care professionals.

Table 3.1: Barriers to Care – T2B Ratings (Challenging/Very Challenging)

	Rural						Non-Rural					
	Phys (PC) (%)	NPs (PC) (%)	PAs (PC) (%)	RNs (%)	PHs (%)	ODs (%)	Phys (PC) (%)	NPs (PC) (%)	PAs (PC) (%)	RNs (%)	PHs (%)	ODs (%)
	A	B	C	D	E	F	A	B	C	D	E	F
<i>Total Respondents</i>	801	702	301	505	501	125	4212	708	577	550	563	500
Affordability of medications	62 F	61	61	56	50	44	50	53	48	58 A C F	53	47
Lack of appropriate specialists in the community	53	65 A F	58 F	56	56	38	19	30 A F	27 A F	26 A F	29 A F	17
Affordability of healthcare	50	58	54	57	48	42	48	50	53	58 A B F	52	49
Lack of nursing staff in the community	48 F	47 F	52 F	60 E F	43	25	37 F	43 A F	40 F	59 A B C E F	41 F	25
Geriatric age	46 F	45	47	52 F	46	28	37 F	37 F	37 F	46 A B C F	41 F	27
Lack of transportation	42	54 A E F	50 F	52 F	36	29	29 F	39 A F	37 A F	44 A E F	33 F	17
Low health literacy levels	37	51 A F	44 F	46 F	44 F	24	31 F	37 A F	38 A F	42 A F	38 A F	20
Lack of insurance	37	45	42	48	39	31	32	38 A F	37	47 A B C E F	35	30
Wait time to secure a medical appointment	36	36	32	38	40	32	38 F	43 A F	39 F	46 A F	42 F	29
Disability	30	36 E F	32	38 E F	22	15	27 F	29 F	25 F	36 A B C E F	28 F	17
Cultural barriers	13	18	16	17	14	7	21 F	26 A F	24 F	29 A F	28 A F	14
Language barriers	9	15	11	14	13	7	19	23	22	27 A F	25 A F	18

Q11: How challenging are each of the following for people in your community when it comes to access to healthcare?

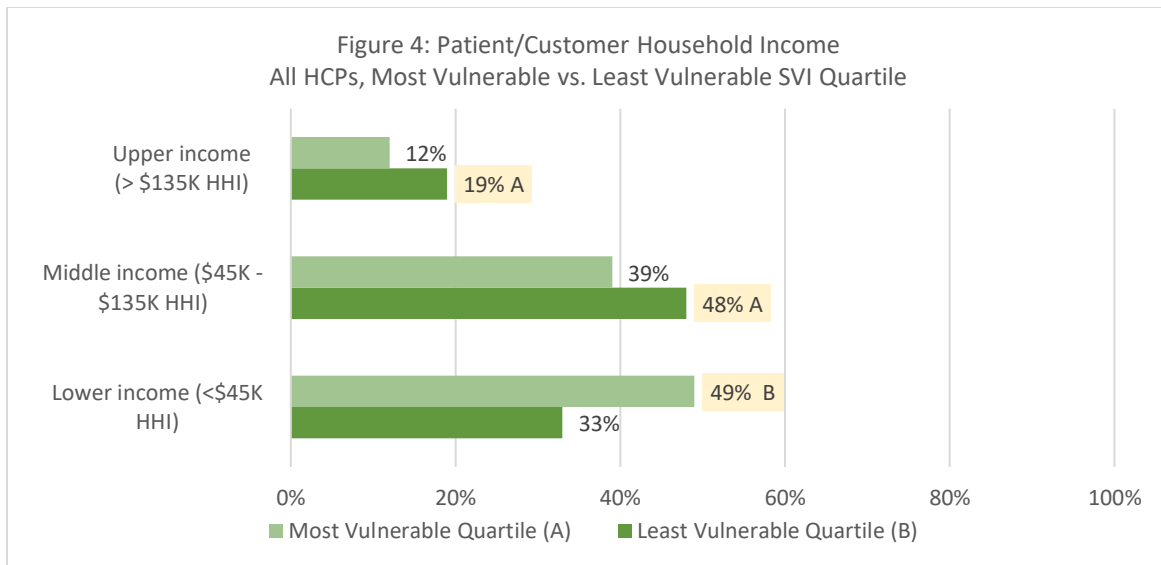
Health Care Professionals by SVI Quartile (Most Vulnerable vs. Least Vulnerable SVI Quartiles)

[Note: This section compares health care professionals in SVI Quartile 1, the most vulnerable quartile, with SVI Quartile 4, the least vulnerable quartile.]

Patient Characteristics

Patients in the most vulnerable quartile lag those in the least vulnerable quartile on socioeconomic measures.

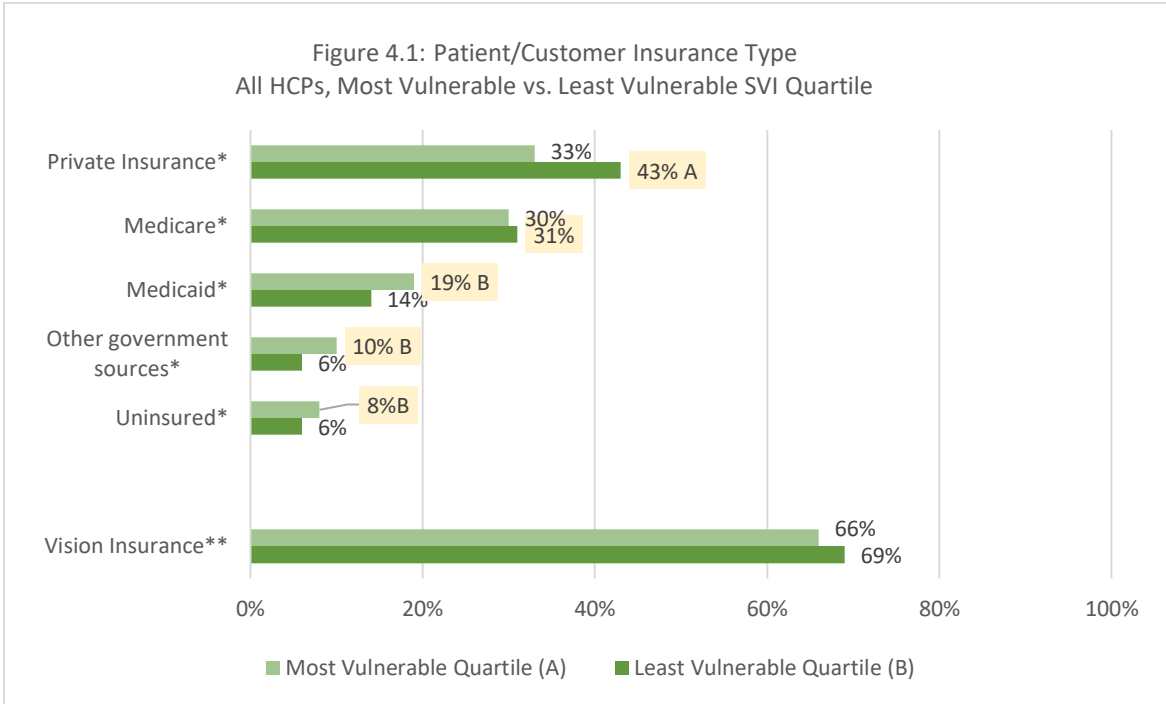
- Almost half of those in the most vulnerable quartile are perceived to have household incomes under \$45,000, compared with a third of those in the least vulnerable quartile. [Figure 4]
- They are less often perceived to have private insurance (33% vs 43%) and more often rely on Medicaid (19% vs. 14%). [Figure 4.1]
- Their health literacy is described as markedly lower, with more than twice as many in the most vulnerable quartile having low/very low health literacy compared with those in the least vulnerable quartile (40% vs 16%). [Figure 4.2]
- They are also described as more racially/ethnically diverse, with under half identified as Caucasian/White, compared with 70% in the least vulnerable quartile. [Figure 4.3]



Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Most Vulnerable Quartile (n=1,884), Least Vulnerable Quartile (n=2,133)

Q8: Approximately what percentage of your patients/customer are in each of the following household income (HHI) groups?



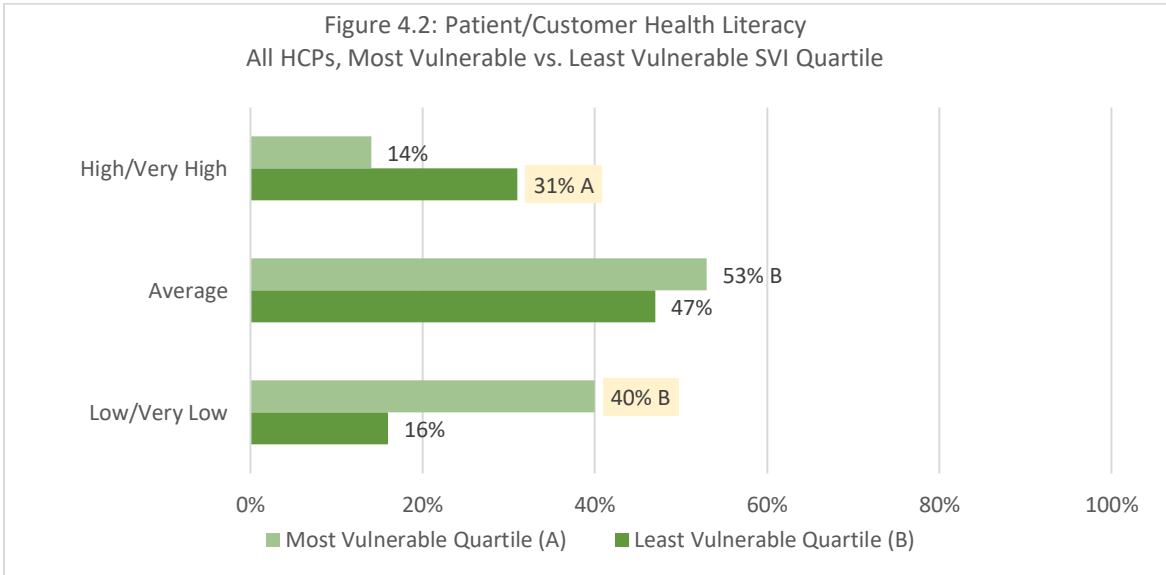
Note: Yellow shading indicates statistical significance accounting for covariate influence.

Q1: Approximately what percentage of your patients are primarily covered by . . . ? Your best estimate is fine.

Q2: Approximately what percentage of your patients have vision insurance? Your best estimate is fine.

*Base: Physicians, NPs, PAs, and RNs (Most Vulnerable Quartile, n=1,415, Least Vulnerable Quartile, n=1,484)

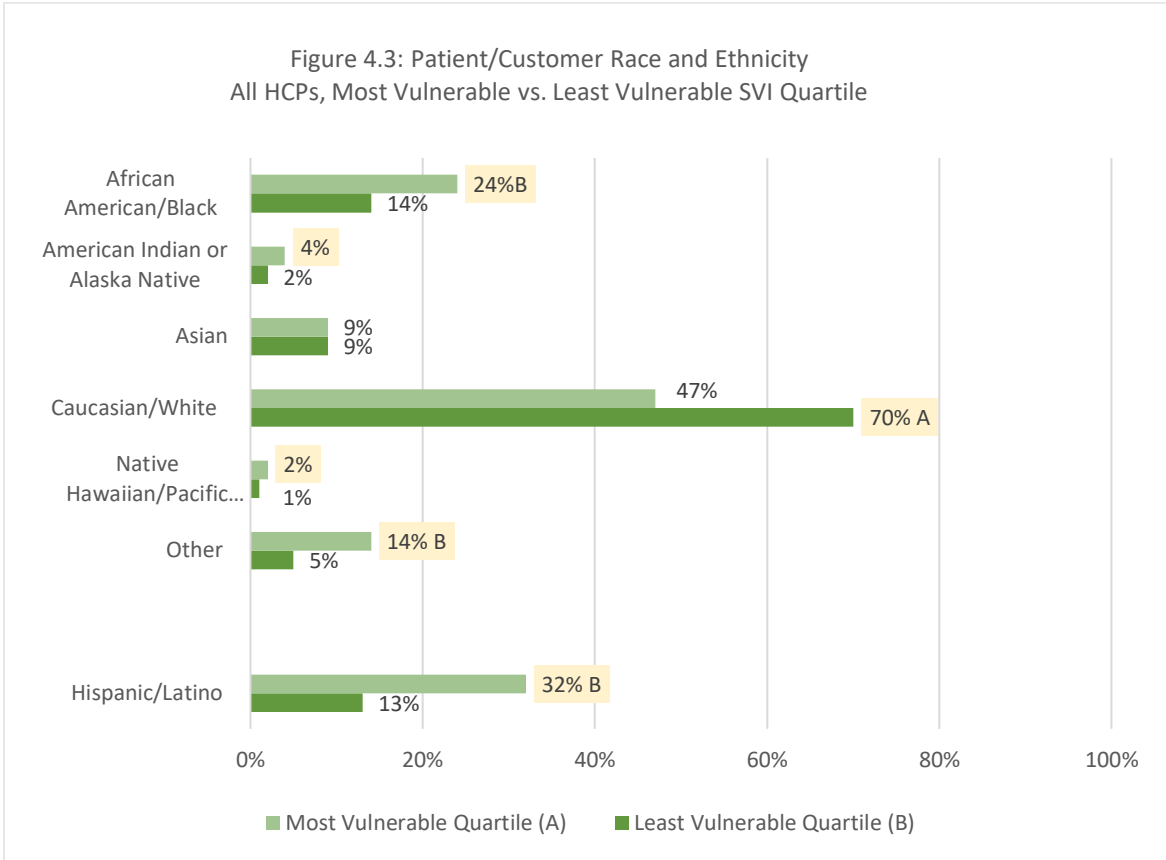
**Base: Optometrists (Most Vulnerable Quartile, n=109, Least Vulnerable Quartile, n=138)



Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Most Vulnerable Quartile (n=1,884), Least Vulnerable Quartile (n=2,133)

Q7: In general, how would you describe the health literacy level of your patients/customers?

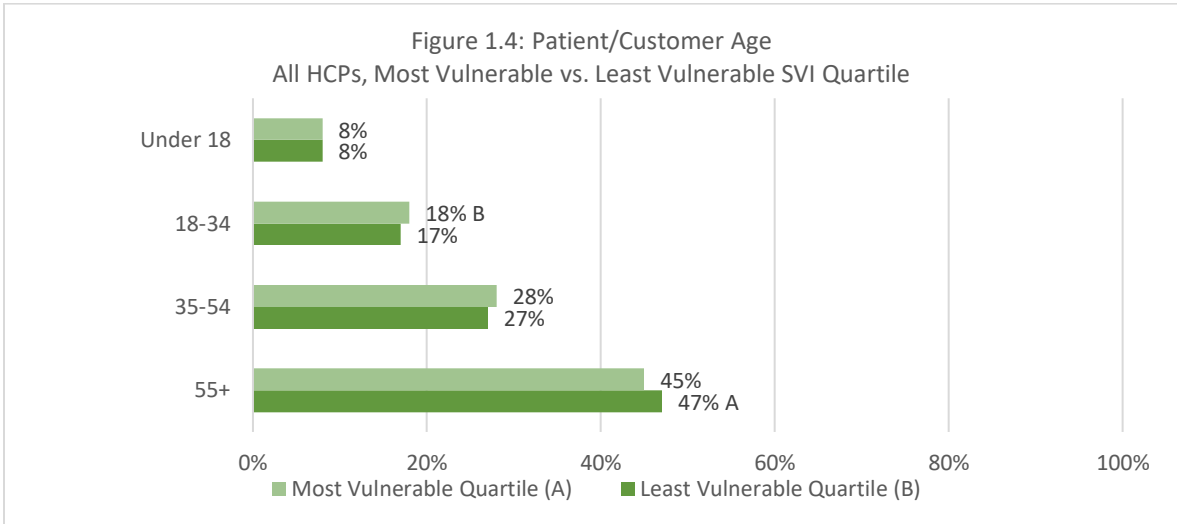


Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Most Vulnerable Quartile (n=1,884), Least Vulnerable Quartile (n=2,133)

Q4: What percentage of your patient population/customer base is . . . ?

Q5: What percentage of your patients/customer base are Hispanic/Latino/a, or of Spanish origin?



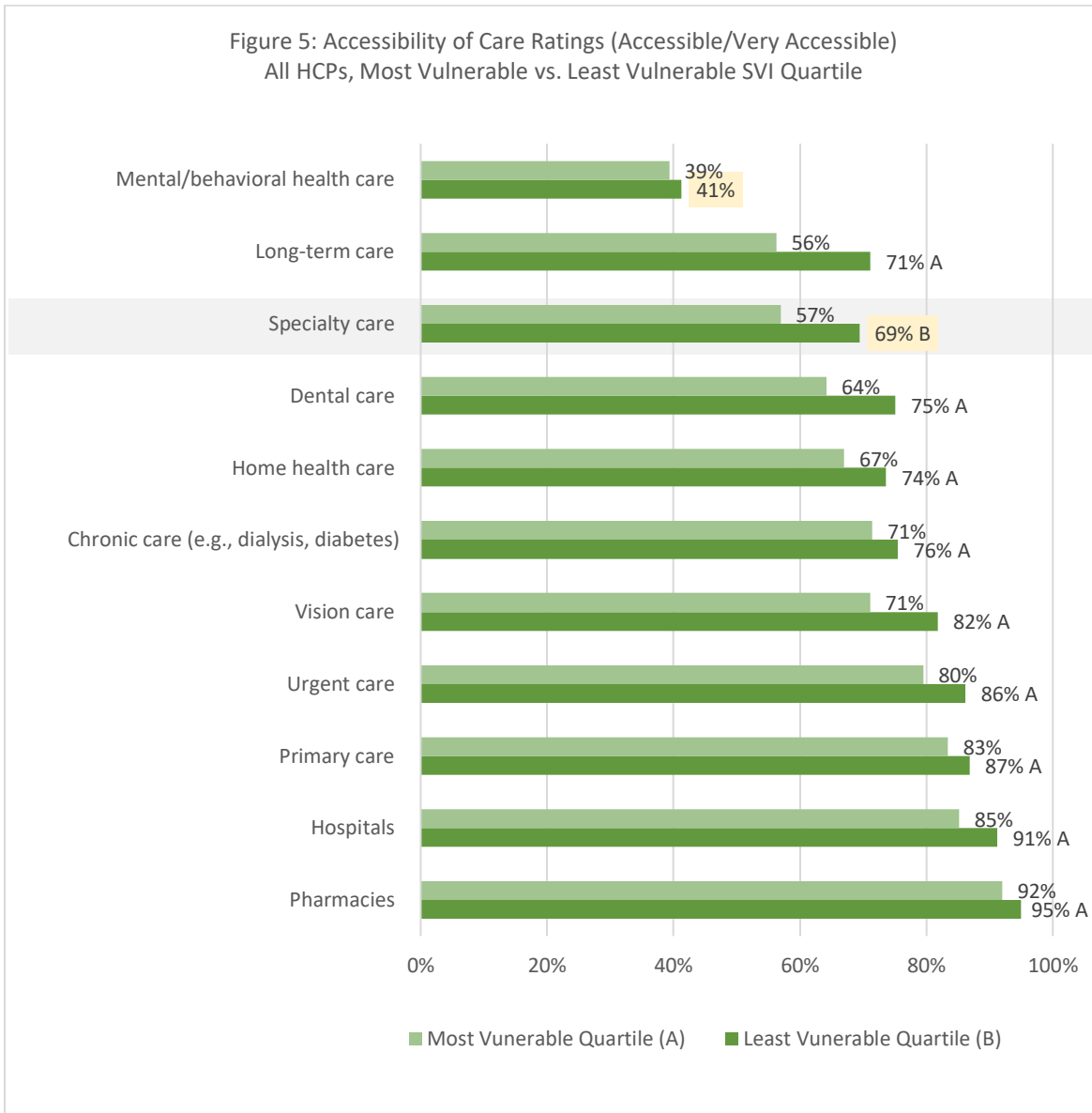
Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Most Vulnerable Quartile (n=1,884), Least Vulnerable Quartile (n=2,133)

Q3: What is the age breakdown of your patient/customer population? Your best estimate is fine.

Accessibility of Care

Accessibility for certain types of care is considered similarly challenging for patients in the most vulnerable SVI quartile as for patients in the least vulnerable quartile. The most notable difference is in specialty care.



Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Most Vulnerable Quartile (n=1,884), Least Vulnerable Quartile (n=2,133)

Q9: Please rate the accessibility of each of the following in the community where you primarily work.

At the clinician level, however, meaningful gaps in perceived accessibility are evident by SVI quartile.

Notably, among NPs, the gap on specialty care between the least and most vulnerable quartiles is 24 percentage points (45% vs. 69%).

Table 5: Accessibility of Care - T2B Ratings (Accessible/Very Accessible)				
Type of Care	HCP Type*	Most Vulnerable Quartile (A)	Least Vulnerable Quartile (B)	% Point Gap (A) – (B)
Long-term care	Physician (PC)	54%	70% A	-16
	Nurse Practitioner (PC)	56%	75% A	-19
	Physician Assistant (PC)	50%	64% A	-14
	Optometrist	66%	83% A	-17
	Registered Nurse	64%	76% A	-12
Vision care	Physician (PC)	73%	83% A	-10
	Nurse Practitioner (PC)	64%	74% A	-10
	Physician Assistant (PC)	64%	80% A	-16
	Pharmacist	68%	79% A	-11
	Optometrist	88%	100% A	-12
Dental care	Physician (PC)	63%	72%	-9
	Nurse Practitioner (PC)	55%	68% A	-13
	Physician Assistant (PC)	55%	74% A	-19
	Registered Nurse	69%	79% A	-10
Specialty care	Physician (PC)	64%	75% A	-11
	Nurse Practitioner (PC)	45%	69% A	-24
	Registered Nurse	47%	66% A	-19

*(PC) = Primary care

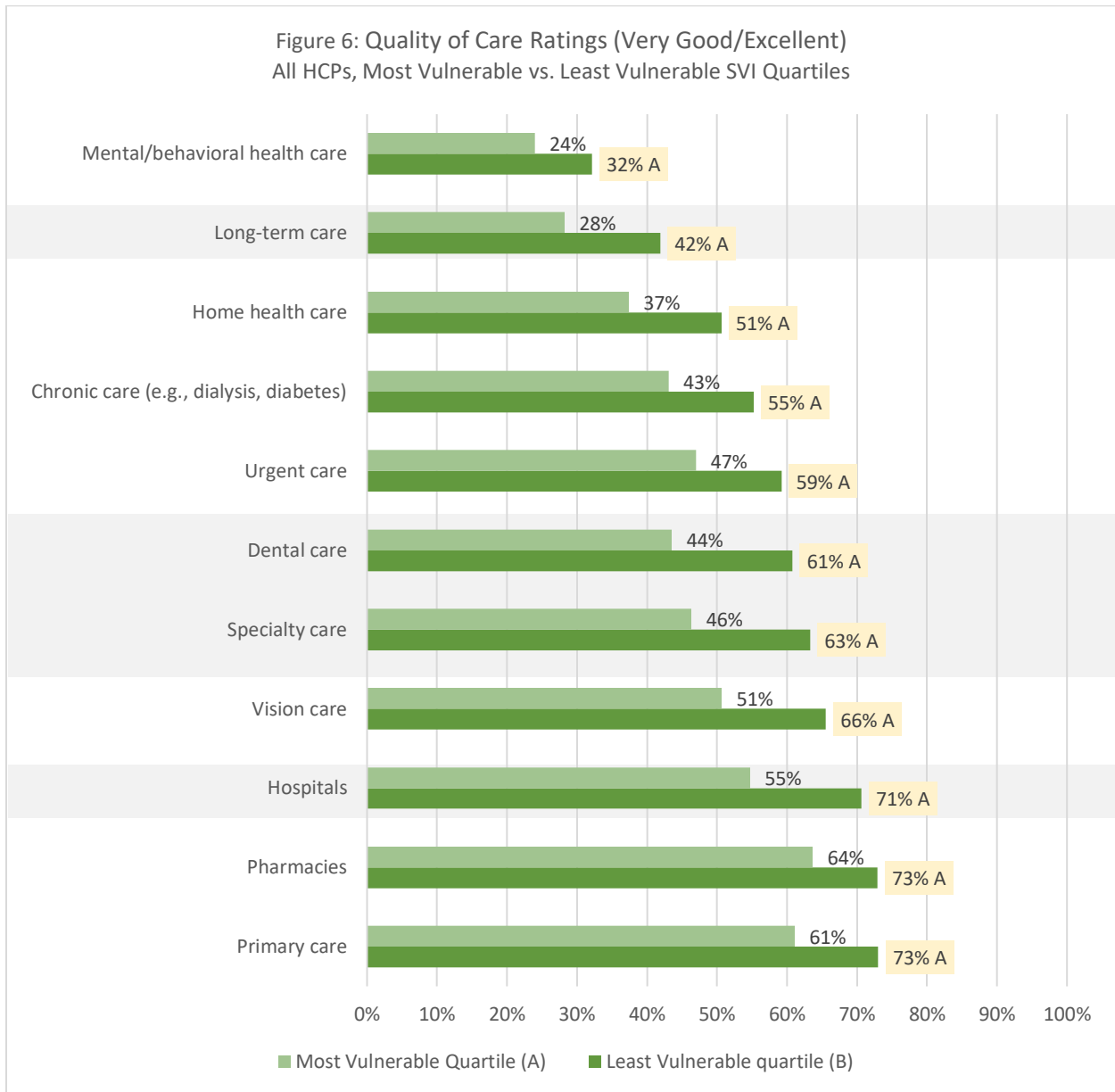
Note: All comparisons are statistically different after accounting for covariate influence.

Base: Most Vulnerable Quartile (n=1,884), Least Vulnerable Quartile (n=2,133)

Q9: Please rate the accessibility of each of the following in the community where you primarily work.

Quality of care in the most vulnerable quartile is perceived to lag quality in the least vulnerable quartile across the board.

Gaps in quality are more striking than gaps in accessibility. Some of the largest gaps between the most vulnerable and least vulnerable quartiles on Very Good/Excellent quality are on the same types of care where accessibility gaps are largest -- long term (28% v. 42%), specialty (46% vs. 63%), and dental care (44% vs. 61%). Hospital quality also has a substantial gap (55% vs. 71%).



Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Most Vulnerable Quartile (n=1,884), Least Vulnerable Quartile (n=2,133)

Q10: Please rate the general quality of each of the following in the community where you primarily work.

On the clinician level, many types of care show large gaps. Gaps in assessment of quality of care tend to be smaller for physicians than for other health care professionals.

Table 6: T2B Quality of Care Ratings (Very Good/Excellent)				
Type of Care	HCP Type*	Most Vulnerable Quartile (A)	Least Vulnerable Quartile (B)	% Point Gap (A) – (B)
Long-term care	Physician (PC)	29%	42% A	-13%
	Nurse Practitioner (PC)	23%	42% A	-19%
	Registered Nurse	19%	37% A	-18%
	Optometrist	42%	60% A	-18%
Home health care	Physician (PC)	40%	52% A	-12%
	Nurse Practitioner (PC)	34%	50% A	-16%
	Physician Assistant (PC)	29%	51% A	-22%
	Registered Nurse	31%	49% A	-18%
Chronic care (e.g., dialysis, diabetes)	Physician (PC)	40%	52% A	-12%
	Nurse Practitioner (PC)	33%	51% A	-18%
	Physician Assistant (PC)	34%	54% A	-20%
	Registered Nurse	34%	45% A	-11%
	Optometrist	47%	67% A	-20%
Urgent care	Physician (PC)	50%	59% A	-9%
	Nurse Practitioner (PC)	40%	58% A	-18%
	Registered Nurse	31%	53% A	-22%
Dental care	Physician (PC)	45%	62% A	-17%
	Nurse Practitioner (PC)	36%	52% A	-16%
	Physician Assistant (PC)	36%	61% A	-25%
	Registered Nurse	32%	55% A	-23%
	Optometrist	70%	86% A	-16%
Specialty care	Physician (PC)	54%	70% A	-16%
	Nurse Practitioner (PC)	35%	60% A	-25%
	Physician Assistant (PC)	39%	63% A	-24%
	Registered Nurse	31%	51% A	-20%
Vision care	Physician (PC)	54%	69% A	-15%
	Nurse Practitioner (PC)	44%	57% A	-13%
	Physician Assistant (PC)	43%	63% A	-20%
	Registered Nurse	33%	56% A	-23%
	Optometrist	80%	96% A	-16%
Hospitals	Physician (PC)	60%	74% A	-14%
	Nurse Practitioner (PC)	41%	70% A	-29%
	Physician Assistant (PC)	47%	69% A	-22%
	Registered Nurse	48%	65% A	-17%
	Optometrist	64%	80% A	-16%

Table 6: T2B Quality of Care Ratings (Very Good/Excellent)				
Type of Care	HCP Type*	Most Vulnerable Quartile (A)	Least Vulnerable Quartile (B)	% Point Gap (A) – (B)
Pharmacies	Physician (PC)	66%	75% A	-9%
	Nurse Practitioner (PC)	59%	70% A	-11%
	Physician Assistant (PC)	54%	77% A	-23%
	Registered Nurse	51%	65% A	-14%
Primary care	Physician (PC)	65%	75% A	-10%
	Nurse Practitioner (PC)	62%	76% A	-14%
	Physician Assistant (PC)	54%	78% A	-24%
	Registered Nurse	47%	61% A	-14%
	Optometrist	62%	83% A	-21%
Mental/behavioral health care	Physician (PC)	24%	31% A	-7%
	Nurse Practitioner (PC)	19%	31% A	-12%
	Registered Nurse	15%	26% A	-11%

*(PC) = Primary care

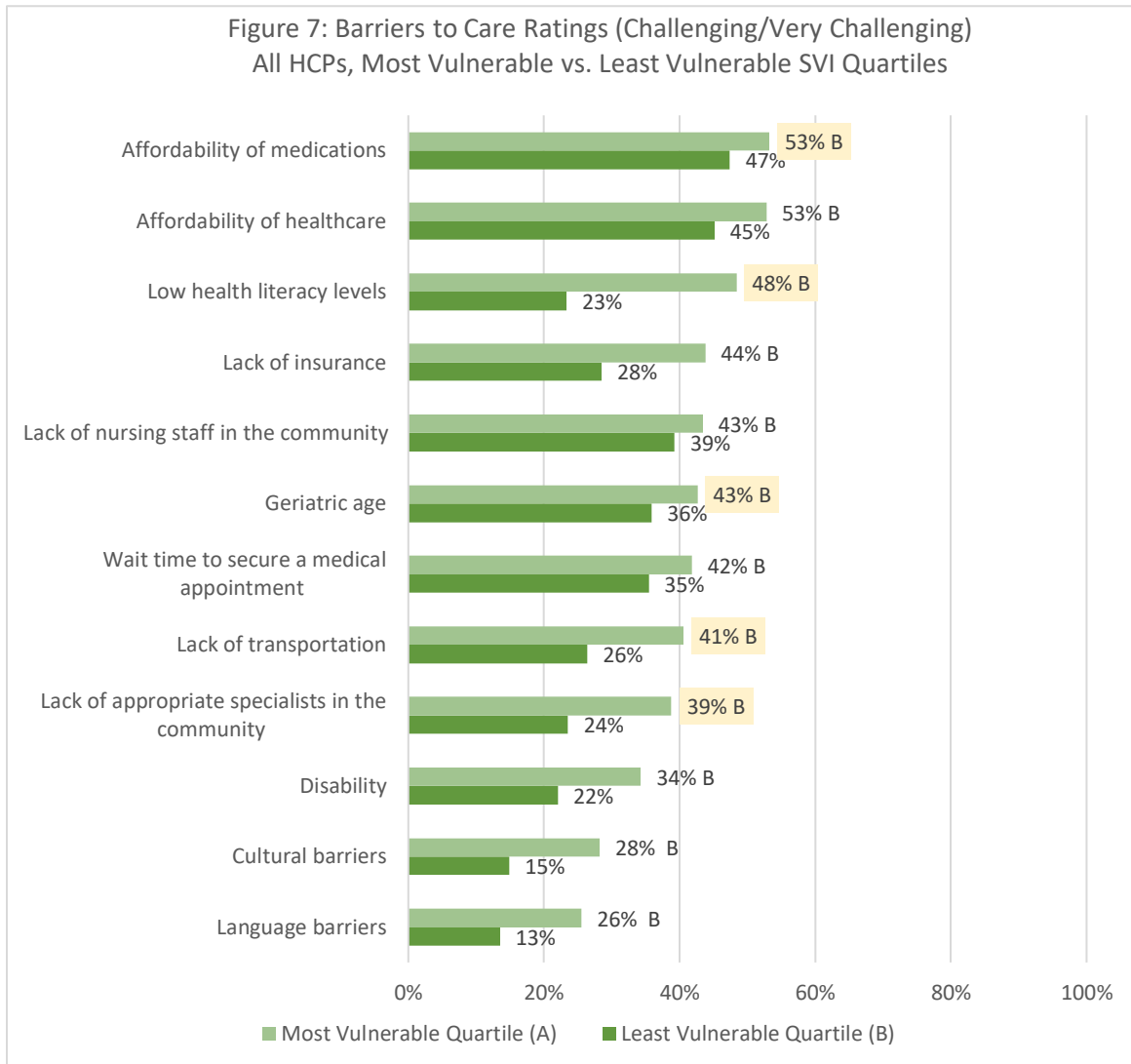
Note: All comparisons are statistically different after accounting for covariate influence.

Base: Most Vulnerable Quartile (n=1,884), Least Vulnerable Quartile (n=2,133)

Q10: Please rate the general quality of each of the following in the community where you primarily work.

Barriers to Accessing Care

Affordability of healthcare and of medications are perceived as top tier barriers for both the least and most vulnerable quartiles. Low health literacy is considered much more of a challenge in the most vulnerable communities, with over twice as many health care professionals in the most vulnerable quartile rating it Challenging/Very Challenging compared with those in the least vulnerable quartile (48% vs. 23%). Lack of insurance (44% vs. 28%) and lack of appropriate specialists in the community (39% vs. 24%) also show substantial gaps.



Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Most Vulnerable Quartile (n=1,884), Least Vulnerable Quartile (n=2,133)

Q11: How challenging are each of the following for people in your community when it comes to access to healthcare? Base:

At the clinician level, nurse practitioners in the most vulnerable quartile more often report barriers to be Challenging/Very Challenging for low health literacy, geriatric age, lack of transportation and cultural barriers.

Table 7: T2B Barriers to Care Ratings (Challenging/Very Challenging)				
Type of Care	HCP Type*	Most Vulnerable Quartile (A)	Least Vulnerable Quartile (B)	% Point Gap (A) – (B)
Low health literacy levels	Nurse Practitioners (PC)	58% B	23%	15
Geriatric age	Nurse Practitioners (PC)	46% B	32%	14
Lack of transportation	Nurse Practitioners (PC)	52% B	31%	21
	Optometrists	27% B	13%	14
Cultural barriers	Nurse Practitioners (PC)	37% B	16%	21

*(PC) = Primary care

Note: All comparisons are statistically different after accounting for covariate influence.

Base: Most Vulnerable Quartile (n=1,884), Least Vulnerable Quartile (n=2,133)

Q11: How challenging are each of the following for people in your community when it comes to access to healthcare?

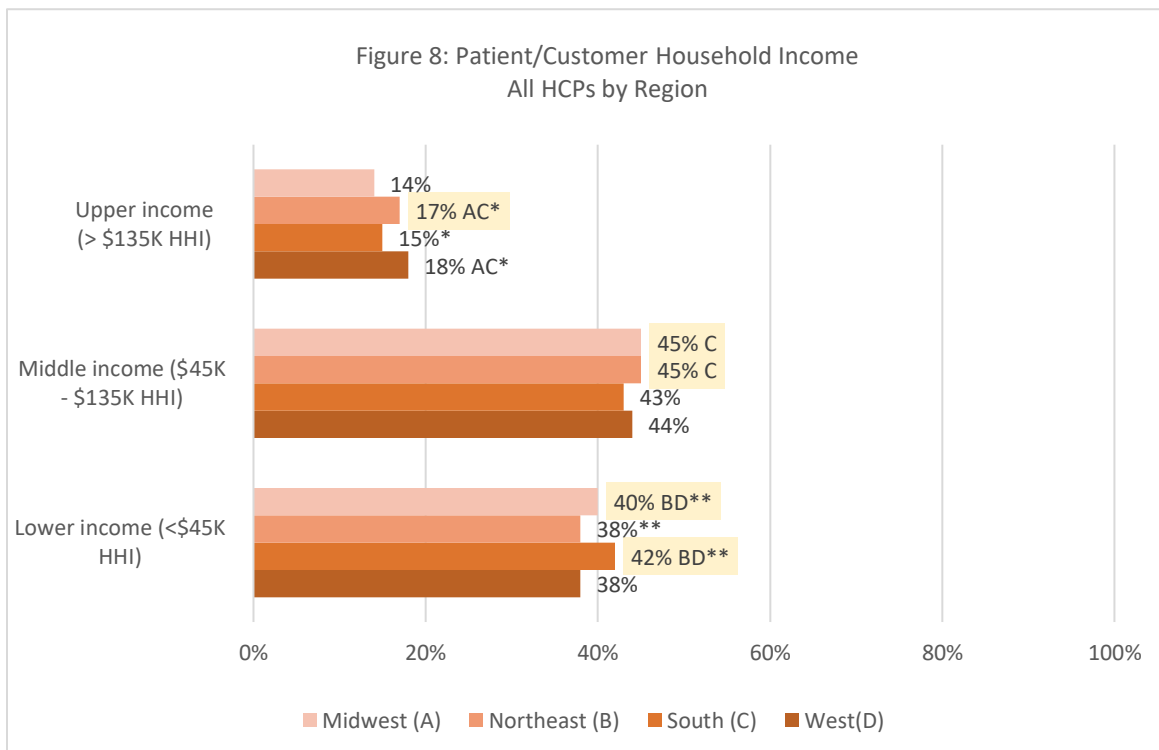
Health Care Professionals by Region

[Note: This section compares health care professionals across the four Census regions: Midwest (MW), Northeast (NE), South (S) and West (W).]

Patient Characteristics

By region, the most notable perceived differences in patient characteristics are in race/ethnicity and health literacy. Income and insurance coverage are similar. [Figures 8, 8.1]

- The Midwest is the least racially and ethnically diverse, with the largest proportion of Caucasians/Whites, (68%) and the fewest Hispanics/Latinos (12%). The Northeast is slightly more diverse, with a larger proportion of Hispanics/Latinos (20%). The South and West are most diverse. The South the highest proportion of African Americans (26%), while the West has the highest proportion of Asians (13%) and Hispanics/Latinos (28%). [Figure 8.3]
- Health literacy is perceived to be lower in the South (30% Low/Very Low). [Figure 8.2]
- Notably, the Midwest has the largest proportion of health care professionals practicing in rural areas. However, it has the lowest proportion of health care professionals practicing in SVI Q1, the most vulnerable quartile, and is among the highest proportion in SVI Q4, the least vulnerable quartile. [Figures 8.4, 8.5]



Note: Yellow shading indicates statistical significance accounting for covariate influence.

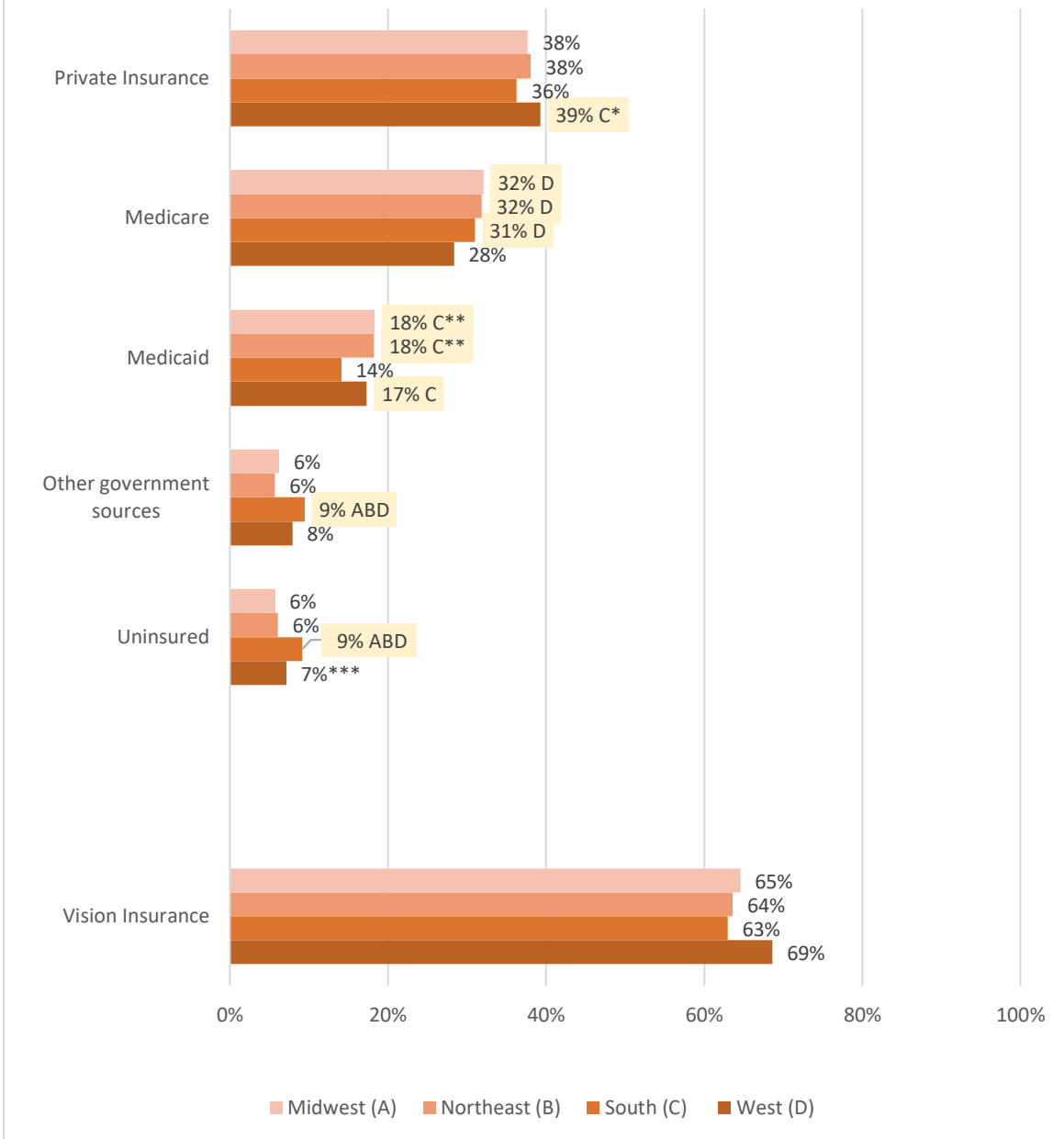
* NE, S, W > MW; NE, S > W accounting for covariate influence

** MW, NE, S > W accounting for covariate influence

Bases: Midwest (n=2,205), Northeast (n=1,964), South (n=3,540), West (n=2,336)

Q8: Approximately what percentage of your patients/customer are in each of the following household income (HHI) groups?

Figure 8.1: Patient/Customer Insurance Type
All HCPs by Region



Note: Yellow shading indicates statistical significance accounting for covariate influence.

*W > MW, NE, S accounting for covariate influence

**MW, NE > W accounting for covariate influence

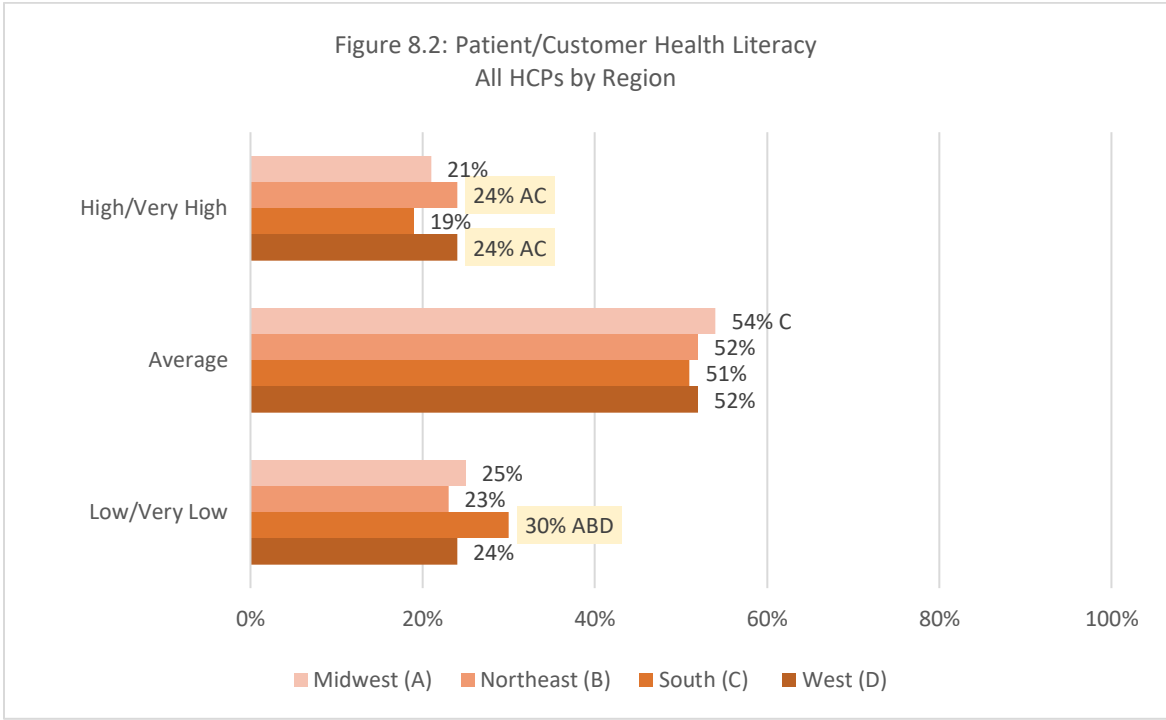
***MW > W accounting for covariate influence

Q1: Approximately what percentage of your patients are primarily covered by . . . ? Your best estimate is fine.

Q2: Approximately what percentage of your patients have vision insurance? Your best estimate is fine.

Base for insurance, excluding vision insurance: Physicians, NPs, PAs, and RNs (MW (n=1,605), NE (n=1,326), S (n=2,515), W (n=1,868))

Base for Vision Insurance: Optometrists (MW (n= 159), NE (n=120), S (n=164), W (n=182))

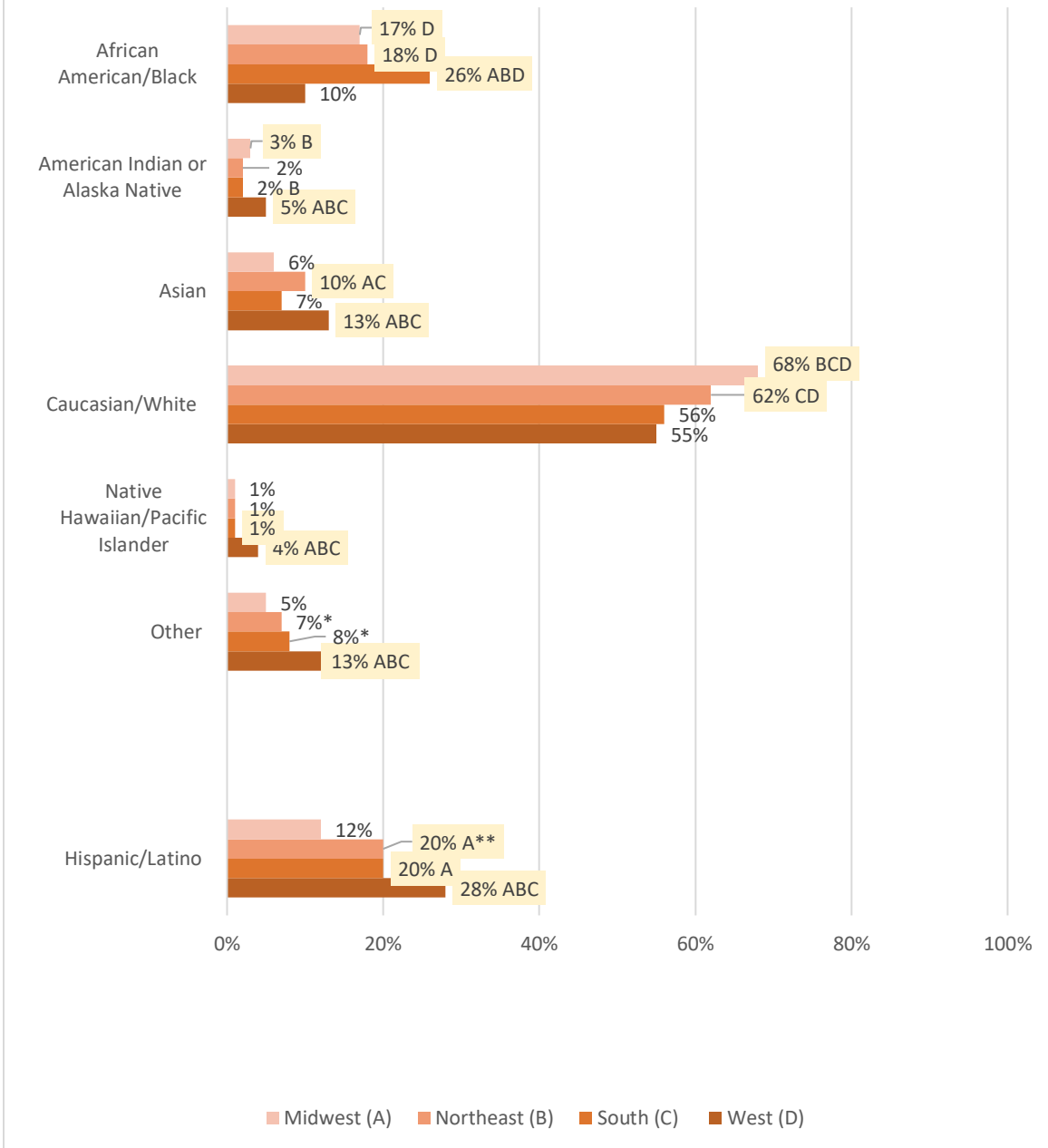


Note: Yellow shading indicates statistical significance accounting for covariate influence.

Bases: Midwest (n=2,205), Northeast (n=1,964), South (n=3,540), West (n=2,336)

Q7: In general, how would you describe the health literacy level of your patients/customers?

Figure 8.3: Patient/Customer Race and Ethnicity
All HCPs by Region



Note: Yellow shading indicates statistical significance accounting for covariate influence.

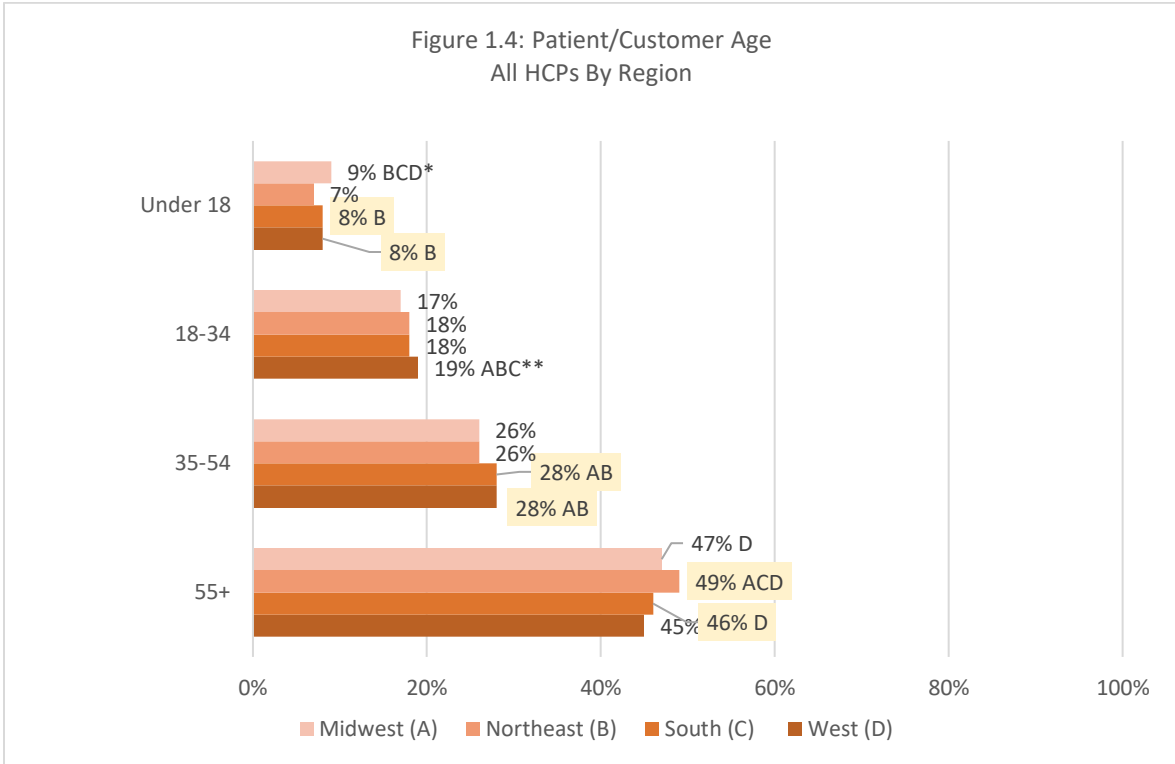
*S>W accounting for covariate influence

**NE>S accounting for covariate influence

Bases: Midwest (n=2,399), Northeast (n=1,882), South (n=3,354), West (n=2,470)

Q4: What percentage of your patient population/customer base is . . . ?

Q5: What percentage of your patients/customer base are Hispanic/Latino/a, or of Spanish origin?



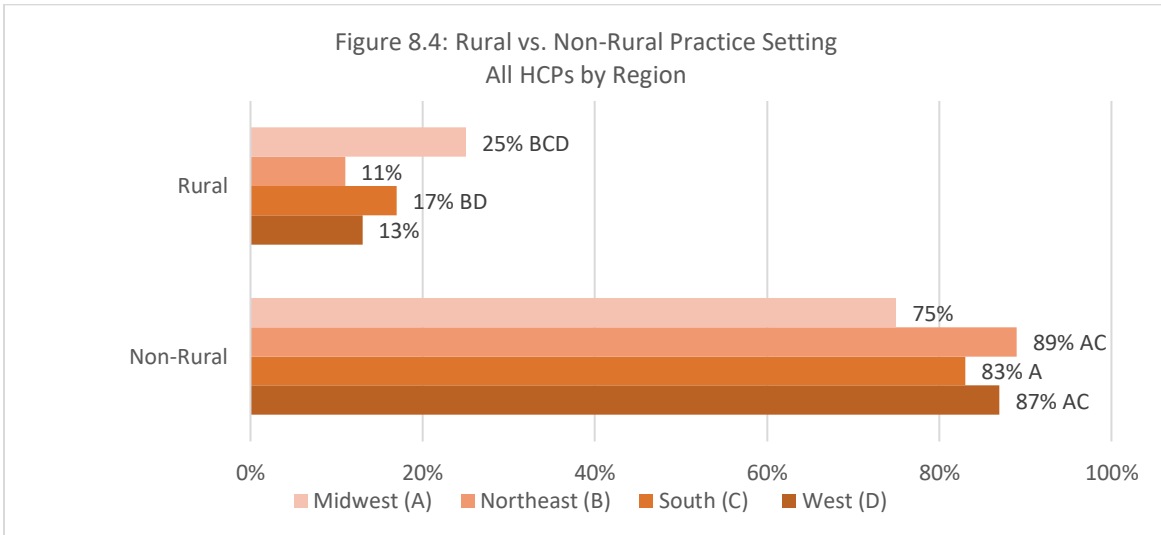
Note: Yellow shading indicates statistical significance accounting for covariate influence.

*MW>NE, S accounting for covariate influence

**W>MW, S accounting for covariate influence

Bases: Midwest (n=2,399), Northeast (n=1,882), South (n=3,354), West (n=2,470)

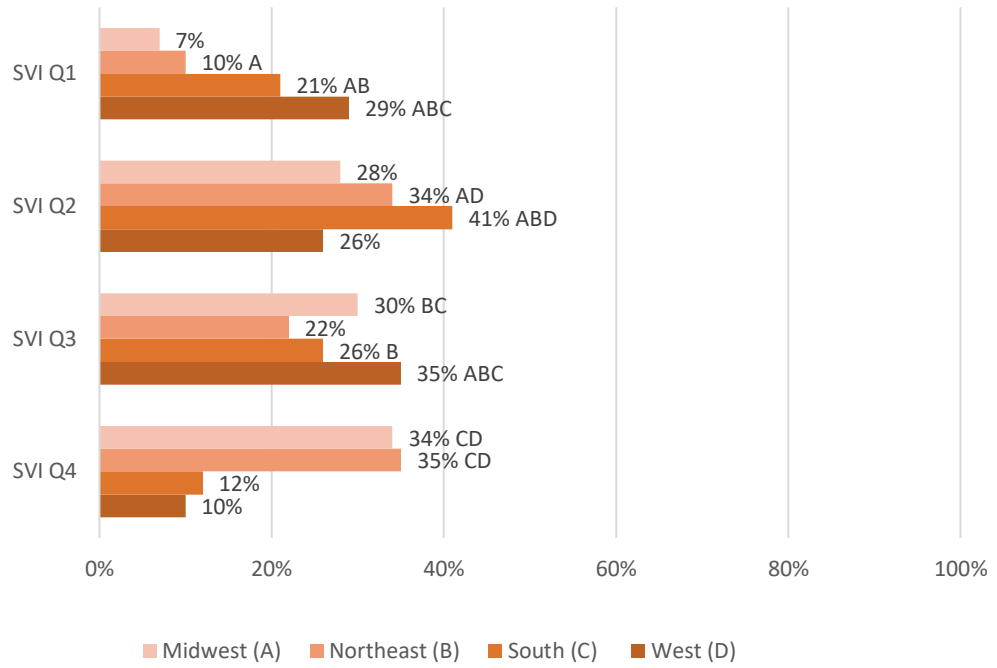
Q3: What is the age breakdown of your patient/customer population? Your best estimate is fine.



Rural/Non-Rural designation based on HRSA designated zip codes of rural areas

Bases: Midwest (n=2,399), Northeast (n=1,882), South (n=3,354), West (n=2,470)

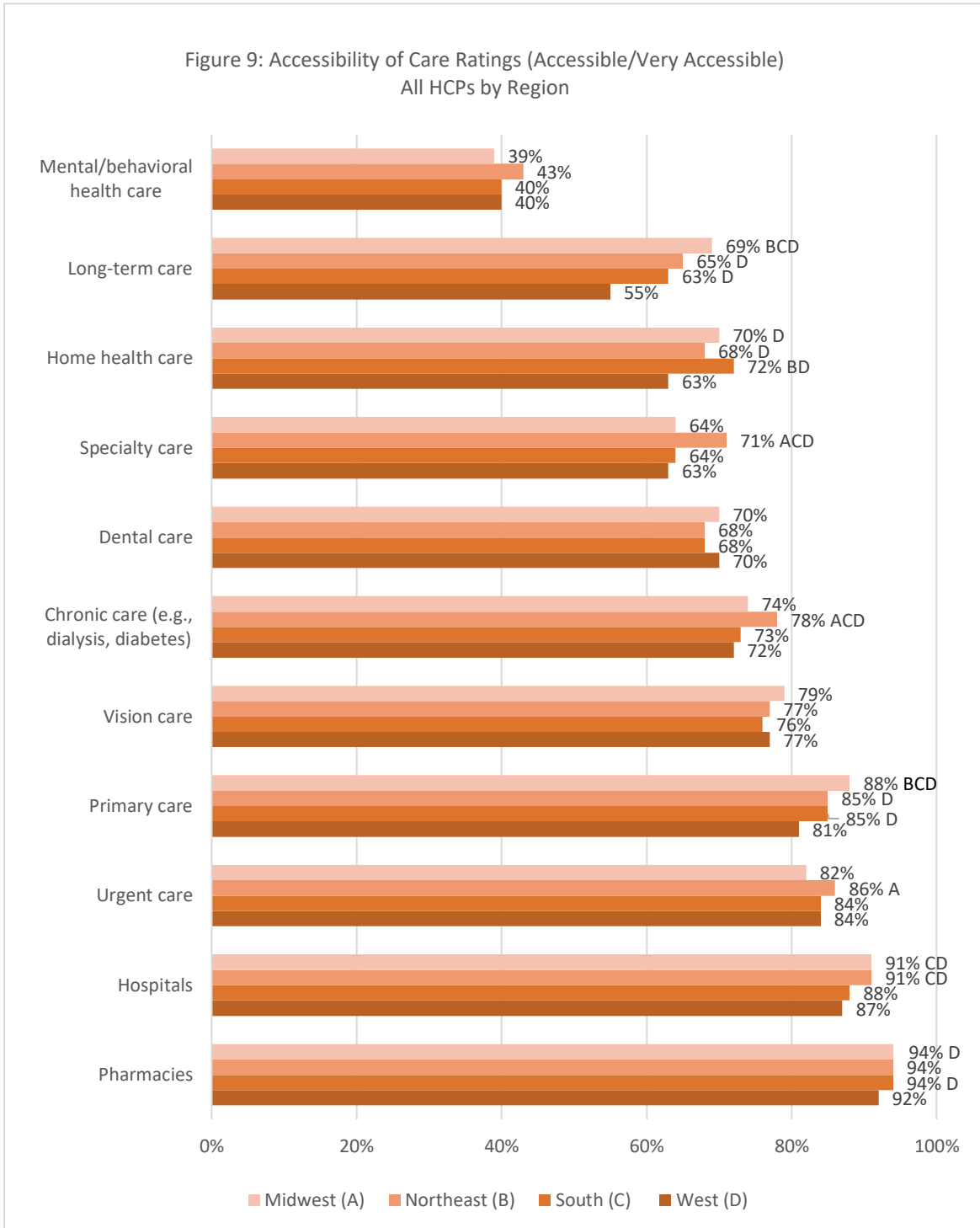
Figure 8.5: SVI Quartile of Practice Setting
All HCPs by Region



SVI quartile based on the CDC Social Vulnerability Index
Bases: Midwest (n=2,399), Northeast (n=1,882), South (n=3,354), West (n=2,470)

Accessibility of Care

The largest gap in accessibility of care is between the Midwest and the West on long-term care (69% vs. 55%). Other gaps, while statistically significant, are of smaller order. [See Table 9 for statistical significance accounting for covariate influence.]



Note: See Table 9 for statistical significance accounting for covariate influence.

Bases: Midwest (n=2,399), Northeast (n=1,882), South (n=3,354), West (n=2,470)

Q9: Please rate the accessibility of each of the following in the community where you primarily work.

While the gaps between regions on individual attributes are not large, a pattern of results is apparent.

- The Midwest is perceived as the strongest performer and holds the overall lead in primary and long-term care accessibility. It also performs well on chronic care, home healthcare and pharmacies and outperforms at least one other region on most other attributes.
- The Northeast is perceived as a leader in chronic care access, but fares less well on dental, vision and home healthcare.
- The South performs well on home health care and pharmacies, and less well on vision care and chronic care.
 - Notably, RNs tend to perceive the South as stronger than other regions on many attributes.
- The West is perceived least well on accessibility. It trails all other regions on primary, specialty and long-term care access.

Table 9: Accessibility of Care - T2B Ratings (Accessible/Very Accessible), Regional Comparisons							
	Total	Phys (PC)	NPs (PC)	PAs (PC)	RNs	PHs	ODs
Total Respondents	10,045	5,013	1,410	878	1,055	1,064	625
Primary care	MW > All All > W	MW > All All > W	MW > NE, W	MW > S, W	S > NE, W		MW > NE, S
Specialty care	All > W	All > W	MW > S, W			MW, N E > W	
Dental care	W > NE		W > All	W > NE	S > MW		MW, W > NE
Vision care	MW > NE, S	MW > All	W > MW, S				S, W > NE
Urgent care		S > NE	NE > S	S > MW	S > MW, W		
Chronic care (e.g., dialysis, diabetes)	MW, NE > S, W	MW, NE > S, W					
Mental/behavioral health care	NE > W W > MW	MW, S > W	W > MW		All > W		MW, W > S
Hospitals	MW > S, W NE > W	MW, NE > S, W			S > W	All > W	MW > S
Long-term care	MW > ALL ALL > W	MW > All All > W	MW > NE, W	MW > W	MW, S > W		All > NE
Home health care	MW, S > NE, W	MW, S > NE ALL > W	S > NE		S > MW, NE		
Pharmacies	MW, S > W				S > All		

(PC) = Primary care

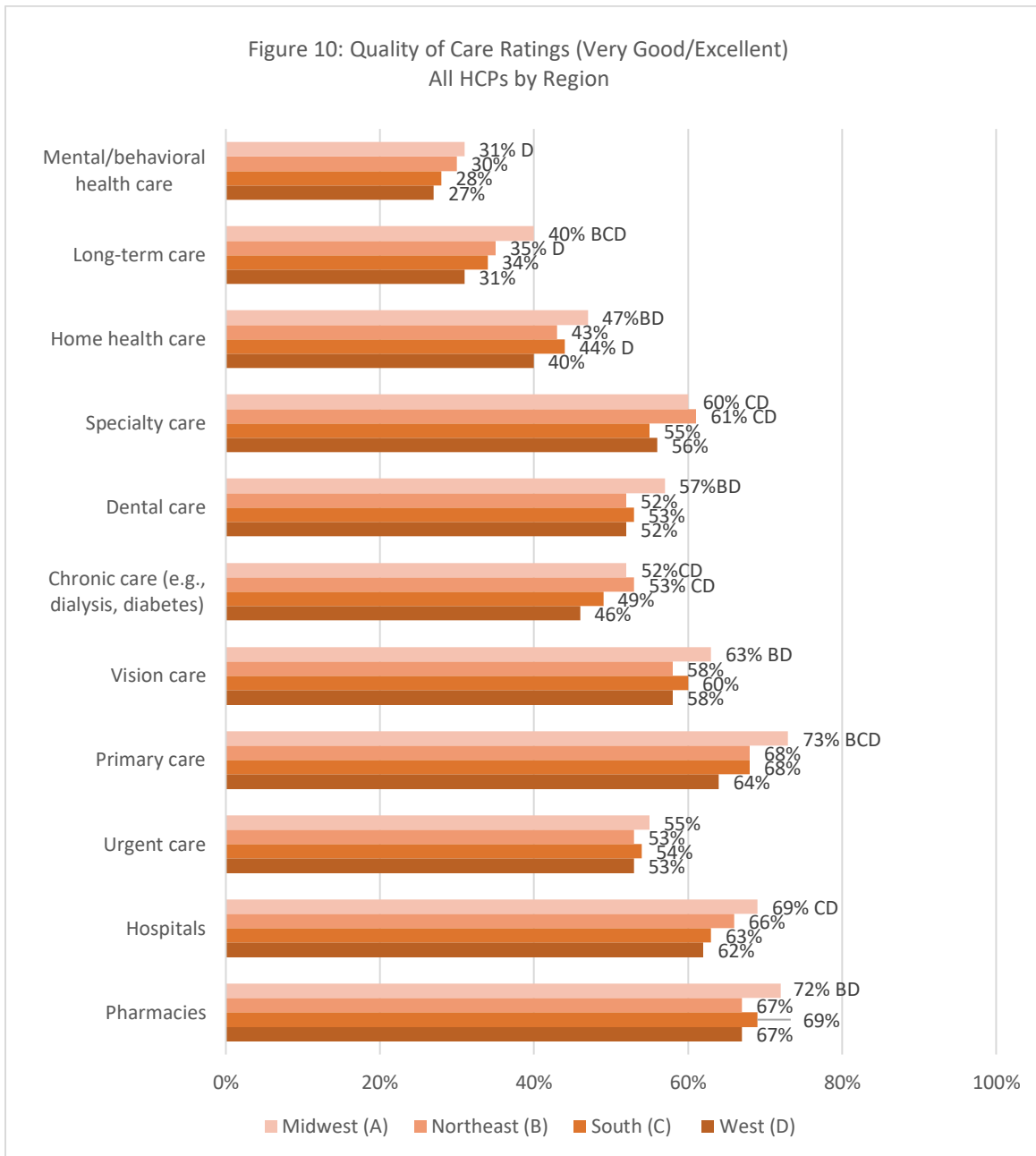
Note: All comparisons are statistically different after accounting for covariate influence.

*Northeast is not greater than Midwest due to potential confounding between regions, rural/non-rural locations, and SVI.

Base sizes per region: Physicians (n=973-1,662), NPs (n=215-571), PAs (n= 136-280), RNs (n=186-353), Pharmacists (n=192-370), Optometrists (n=120-182).

Q9: Please rate the accessibility of each of the following in the community where you primarily work.

On quality of care, the Midwest leads all regions for long-term and primary care and tends to be a top performer on most other types of care. In contrast, the West tends to lag other regions, with the South and Northeast falling in between. [See Table 10 for statistical significance accounting for covariate influence.]



Note: See Table 10 for statistical significance accounting for covariate influence.

Bases: Midwest (n=2,399), Northeast (n=1,882), South (n=3,354), West (n=2,470)

Q10: Please rate the general quality of each of the following in the community where you primarily work.

As with accessibility, the Midwest is best perceived on quality of care, while the West trails the other regions.

- The Midwest is the strongest performer, holding the overall lead in primary, long-term, mental/behavioral and hospital care quality. It also performs well on vision care, urgent care, home healthcare and pharmacies.
- The Northeast is perceived as a leader in specialty care and chronic care but trails all other regions on dental and vision care.
 - Notably, optometrists perceive the Midwest and the South as outperforming the Northeast on many attributes.
- The South performs well on primary care, vision care, urgent care, home healthcare and pharmacies, but trails on specialty care and chronic care.
- The West trails all other regions on quality of chronic care, mental behavioral healthcare, and long-term care. It is also perceived less well on the remaining types of care.

Table 10: Quality of Care - T2B Ratings (Very Good/Excellent), Regional Comparisons							
	Total	Phys (PC)	NPs (PC)	PAs (PC)	RNs	PHs	ODs
Total Respondents	10, 045	5,013	1,410	878	1,055	1,064	625
Primary care	MW > All S > NE, W	MW > All All > W	S > W	MW > S, W	MW > All S > NE		MW > NE
Specialty care	NE > MW, W MW > S, W W > S	All > W			MW > ALL	MW > S, W	MW > NE
Dental care	All > NE	MW, S > NE		MW > NE			All > NE
Vision care	MW, S > W All > NE	MW, S > NE, W		MW, W > NE	All > NE		MW, S > NE MW > W
Urgent care	MW, S > NE, W	MW, S > NE, W		MW > S	S > NE		MW, S > NE
Chronic care (e.g., dialysis, diabetes)	NE > All MW > S All > W	All > W					MW > NE
Mental/behavioral health care	MW > All All > W	All > W	MW > All				
Hospitals	MW > All S > W	MW > All S > W		MW > S	MW > All	MW > S	MW, S > NE, W
Long-term care	MW > All All > W	MW > ALL All > W				MW > S, W	All > NE
Home health care	MW, S > NE, W	MW, S > W	S > NE, W		MW, W > NE	MW > S	MW > NE, W
Pharmacies	MW, S > NE, W	MW, S > W MW > NE	S > MW, NE	MW > NE	All > NE		MW > NE, W

(PC) = Primary care

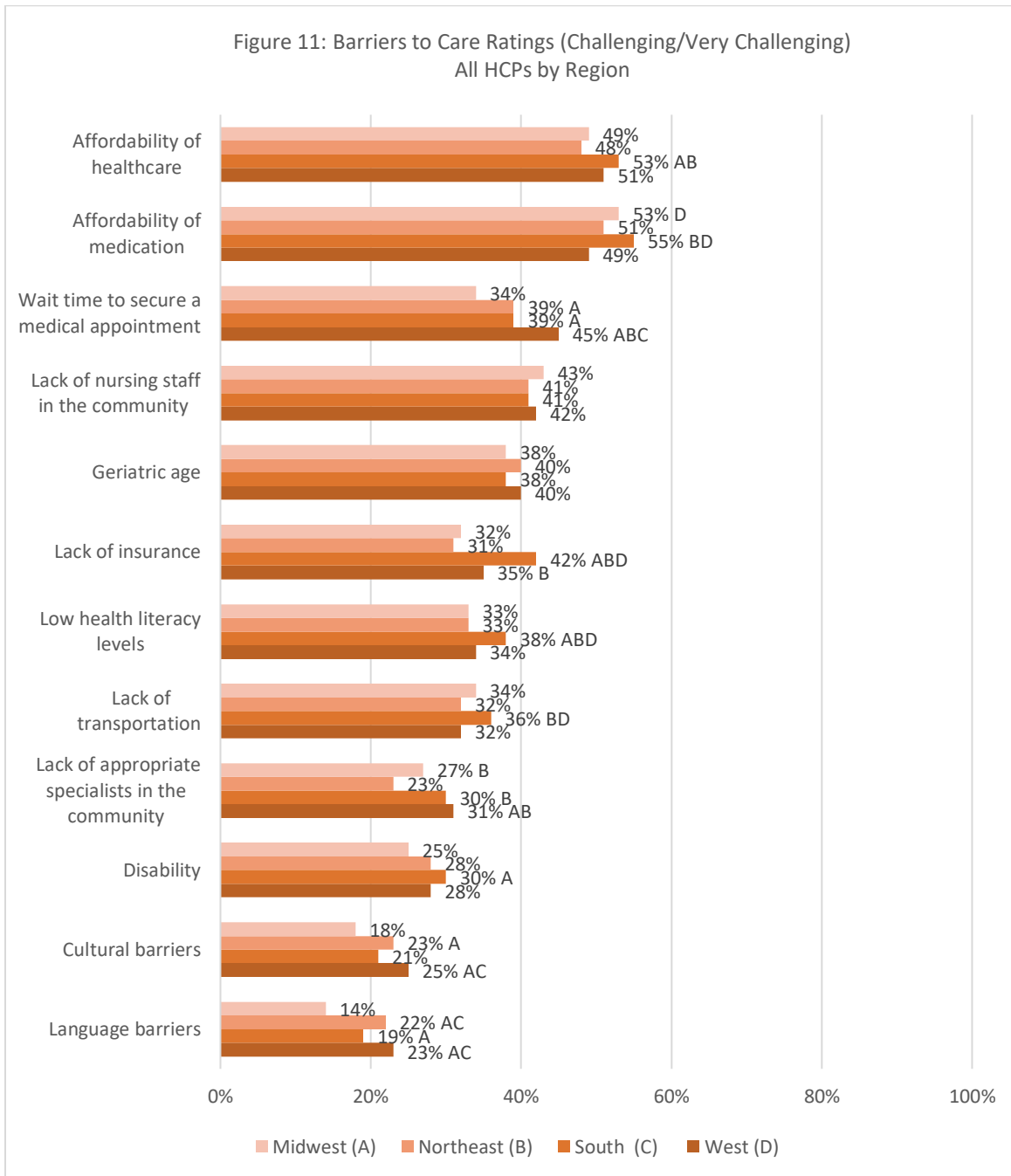
Note: All comparisons are statistically different after accounting for covariate influence.

Base sizes per region: Physicians (n=973-1,662), NPs (n=215-571), PAs (n= 136-280), RNs (n=186-353), Pharmacists (n=192-370), Optometrists (n=120-182).

Q10: Please rate the general quality of each of the following in the community where you primarily work.

Barriers to Accessing Care

There are small differences among the regions in terms of barriers to care. Notably, health care professionals in the South more often perceive lack of insurance and low health literacy as barriers than do their counterparts in other regions. Clinicians in the Northeast and West perceive more challenges from cultural and language barriers. [See Table 11 for statistical significance accounting for covariate influence.]



Note: See Table 11 for statistical significance accounting for covariate influence.

Base sizes: Midwest (n=2,205), Northeast (n=1,964), South (n=3,540), West (n=2,336)

Q11: How challenging are each of the following for people in your community when it comes to access to healthcare?

Barriers considered Challenging/Very Challenging vary by region. Of note:

- Clinicians in the West more often perceive cultural barriers, language barriers wait time to secure an appointment and lack of appropriate specialists as challenging.
- In the South, lack of insurance, affordability of healthcare, disability and lack of appropriate specialists are more often perceived as challenging, while lack of nursing staff is seen as less challenging than in other regions.
- In the Northeast, language barriers, disability and geriatric age are more often perceived as challenging than in other regions. Lack of insurance and lack of specialists are seen as less challenging.
 - Notably, PAs tend to see the Northeast as having greater challenges than other regions, particularly with concern to cultural and language barriers and lack of transportation.
- The Midwest is perceived to have lesser degrees of challenge than other regions, except for lack of nursing staff.

Table 11: Barriers to Care - T2B Ratings (Challenging/Very Challenging), Regional Comparisons							
	Total	Phys (PC)	NPs (PC)	PAs (PC)	RNs	PHs	ODs
Total Respondents	10, 045	5,013	1,410	878	1,055	1,064	625
Cultural barriers	W> NE, S NE > S	NE > S	NE> S	NE > All			NE > MW
Language barriers	W > NE NE, W > MW, S	W > All NE > MW, S		NE > All	W > S		
Affordability of healthcare	S, W > MW	W > NE	S > MW	NE > MW			
Affordability of medications	S > W	MW, S > W S > NE	S > MW	NE > MW		S > W	
Lack of transportation				NE > ALL			NE, S > MW
Disability	S, NE > MW NE > W	NE, S > MW	S > MW				
Geriatric age	NE > MW, S	W > MW		NE > MW, S	MW > S	MW > S	NE, S > MW
Lack of insurance	S > ALL W>NE, MW	S > MW, NE	S > All	S > MW	S > MW		
Wait time to secure a medical appointment	W>All All>MW	W > ALL NE, S > MW	W > S	ALL > MW	W > All	NE > All	NE, W > S
Lack of appropriate specialists in the community	W > All S> MW, NE	W > ALL	S, W > MW, NE		W > NE	W > MW	W > All
Low health literacy levels	S> W W > NE*	S > MW		NE > All			
Lack of nursing staff in the community	MW > W All > S	W > S	W > NE, S	NE > MW, S		MW > S	NE > S

(PC) = Primary care

Note: All comparisons are statistically different after accounting for covariate influence.

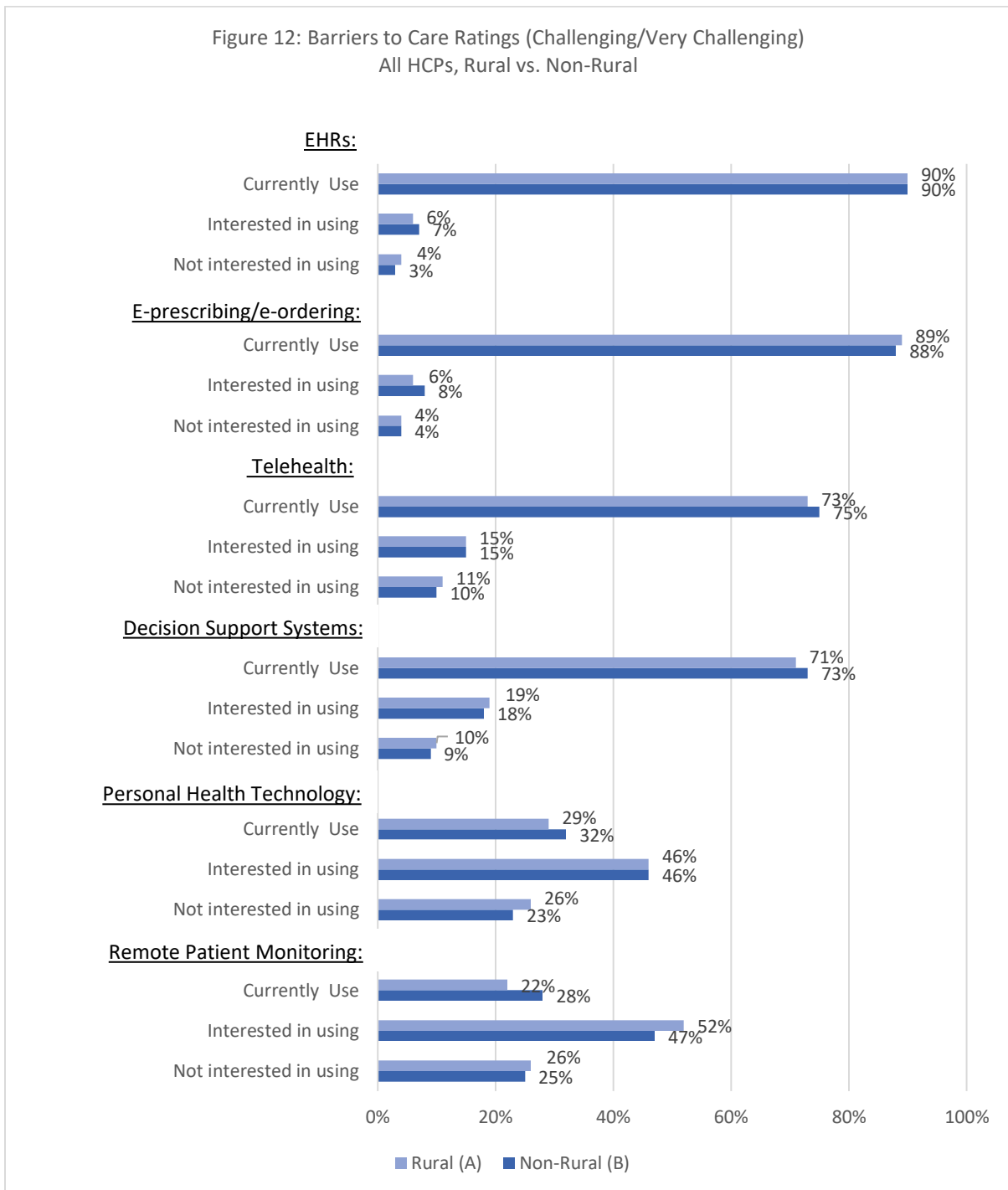
*South is not greater than Northeast due to potential confounding between regions, rural/non-rural locations, and SVI.

Base sizes per region: Physicians (n=973-1,662), NPs (n=215-571), PAs (n= 136-280), RNs (n=186-353), Pharmacists (n=192-370), Optometrists (n=120-182).

Q11: How challenging are each of the following for people in your community when it comes to access to healthcare?

Health Information Technology (HIT)

Usage of HIT is generally similar across rural and non-rural health care professionals, though there are opportunities for increased use in remote patient monitoring and personal health technology for monitoring patients across the board, as well as in other areas for specific clinician types.



Base: Total Respondents (N=10,045)

Q12: Which best represents your use of the following health information technology in your primary work setting?

Electronic Health Records (EHRs)

- EHRs are widely used across the board. Among pharmacists, EHRs are used less in rural settings (70% R vs. 82% NR), though most who don't use them are interested in use. Rural physicians and pharmacists are using EHRs less often as decision making tools (physicians: 39% vs. 47%, pharmacists: 41% vs. 54%).
- About three-quarters of health care professionals are comfortable/very comfortable using EHRs.
- Rural physicians and optometrists less often perceive EHR use as beneficial to patient outcomes than do their non-rural counterparts (physicians: 57% vs. 72%, ODs: 63% vs. 79%).
- The main barriers to EHR use are that it slows workflow and detracts from the HCP patient point of care experience.

Table 12: EHRs												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
	A	B	A	B	A	B	A	B	A	B	A	B
<i>Total Respondents</i>	801	4212	702	708	301	577	505	550	501	563	125	500
Usage												
Currently use	92	91	96	95	98	96	90	88	70	82 A	84	80
Interest in using	3	5 A	3	4	1	3	8	9	24 B	16	12	13
No interest in using	4	3	2	1	1	1	3	3	6 B	2	5	7
Comfort Level Using												
Comfortable/Very comfortable	75	76	74	75	77	74	79	78	71	71	74	75
Patient Outcomes Benefit												
Beneficial/Very Beneficial	57	72 A	81	85	76	81	na	na	na	na	63	79 A
Use in Primary Setting												
During patient visits/customer interactions	87	85	90	90	89	90	76	78	53	61	79	77
Outside of patient visits/customer interactions, e.g., record updates, patient education materials	60	63	68	65	68	67	55	55	40	47	40	37
Decision making support tools	39	47 A	46	51	46	49	38	39	41	54 A	13	23

Reasons EHR System Not Utilized More Fully												
EHR use slows workflow	57 B	44	33	30	39	33	21	22	na	na	43	38
Detracts from the HCP patient point of care experience	47 B	38	30	29	35	30	19	26	na	na	33	31
Work setting lacks technology infrastructure	21 B	14	26 B	19	19	17	27 B	19	na	na	13	12
Staff lacks training	19	17	20	18	19	19	23	25	na	na	20	26

(PC) = Primary care

Note: Yellow shading indicates statistical significance accounting for covariate influence.

Q12: Which best represents your use of the following health information technology in your primary work setting?

Q13: How comfortable are you using each of the following?

Q14: How beneficial are each of the following in terms of your patient outcomes?

Q17: How are you using electronic health records (EHRs) in your primary work setting?

Q18: What, if anything, prevents you from using your EHR system more fully? Select all that apply.

E-prescribing/e-ordering

- E-prescribing/e-ordering is widely used, although less so among non-rural optometrists. A quarter of non-rural optometrists express interest in use.
- The majority of health care professionals are comfortable using remote -prescribing/e-ordering and most find it beneficial.

	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
	A	B	A	B	A	B	A	B	A	B	A	B
<i>Total Respondents</i>	801	4212	702	708	301	577	505	550	501	563	125	500
Use												
Currently use	90	91	92	89	97	93	73	74	96	92	79	69
Interest in using	5	7	5	8	2	6	16	14	2	6 A	14	24 A
No interest in using	4 B	2	3	3	1	1	11	12	2	2	7	7
Comfort Level												
Comfortable/Very comfortable	80	78	74	74	80	73	63	63	69	70	73	73
Patient Outcomes Benefit												
Beneficial/Very Beneficial	82	88 A	94	93	91	93	na	na	na	na	75	84

(PC) = Primary care

Note: Yellow shading indicates statistical significance accounting for covariate influence.

Q12: Which best represents your use of the following health information technology in your primary work setting?

Q13: How comfortable are you using each of the following?

Q14: How beneficial are each of the following in terms of your patient outcomes?

Telehealth

- Telehealth is widely used by both rural and non-rural physicians, NPs, and PAs, and by a minority of optometrists. About a third of all optometrists express interest in use.
- The majority of health care professionals are comfortable using telehealth and most find it beneficial, with optometrists lagging other health care professionals on these measures.

Table 12.2: Telehealth										
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
	A	B	A	B	A	B	A	B	A	B
<i>Total Respondents</i>	801	4212	702	708	301	577	505	550	125	500
Use										
Currently use	78	81	79	81	78	81	65	62	22	32 A
Interest in using	13	13	14	13	12	12	20	24	35	32
No interest in using	9	7	7	6	11	7	14	15	44	36
Comfort Level										
Comfortable/Very comfortable	70	71	66	67	67	65	62	64	50	55
Patient Outcomes Benefit										
Beneficial/Very Beneficial	65	75 A	79	83	76	78	na	na	53	54

(PC) = Primary care

Note: Yellow shading indicates statistical significance accounting for covariate influence.

Q12: Which best represents your use of the following health information technology in your primary work setting?

Q13: How comfortable are you using each of the following?

Q14: How beneficial are each of the following in terms of your patient outcomes?

Decision Support Systems

- Decision support systems are used by 80% or more of physicians, NPs, and PAs, with lower use among RNs and pharmacists. Approximately 15% of optometrists are using them.
 - Decision support systems are less often used by pharmacists in rural communities, though 30% of these pharmacists are interested in using them.
 - In both rural and non-rural communities, over a third of RNs and about two-fifths optometrists are interested in their use.
- Three quarters or more of physicians, NPs and PAs are Comfortable/Very Comfortable using decision support systems, with RNs and Pharmacists slightly less comfortable.
- Optometrists are least comfortable, with about half comfortable/very comfortable using these systems. Only about half feel use is beneficial to patient outcomes.

	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
	A	B	A	B	A	B	A	B	A	B	A	B
<i>Total Respondents</i>	801	4212	702	708	301	577	505	550	501	563	125	500
Use												
Currently use	80	83 A	85	83	86	85	41	43	54	70 A	16	15
Interest in using	14	13	12	14	12	11	35	37	30 B	21	39	42
No interest in using	6	5	3	3	2	4	24	21	16 B	9	46	43
Comfort Level												
Comfortable/Very Comfortable	79	77	74	74	80	74	67	66	70	69	50	56
Patient Outcomes Benefit												
Beneficial/Very Beneficial	88	88	93	93	92	92	na	na	na	na	55	55

(PC) = Primary care

Note: Yellow shading indicates statistical significance accounting for covariate influence.

Q12: Which best represents your use of the following health information technology in your primary work setting?

Q13: How comfortable are you using each of the following?

Q14: How beneficial are each of the following in terms of your patient outcomes?

Personal Health Technology to Monitor Patients

- A minority of both rural and non-rural health care professionals currently use personal health technology to monitor patients, though about half are interested in using it.
- About two-thirds are Comfortable/Very Comfortable using personal health technology to monitor patients.
- Rural physicians less often believe it is Beneficial/Very Beneficial to patient outcomes (45% vs. 60%).

Table 12.4: Personal Technology for Monitoring My Patients								
	Phys (PC)		NPs (PC)		PAs (PC)		RNs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
	A	B	A	B	A	B	A	B
<i>Total Respondents</i>	801	4212	702	708	301	577	505	550
Use								
Currently use	29	32	31	35	24	29	30	29
Interest in using	45	47	48	44	50	43	40	45
No interest in using	26 B	21	21	21	25	28	30	26
Comfort Level Using								
Comfortable/Very Comfortable	66	67	66	63	60	63	71	65
Patient Outcomes Benefit								
Beneficial/Very Beneficial	45	60 A	62	73	58	66	na	na

(PC) = Primary care

Note: Yellow shading indicates statistical significance accounting for covariate influence.

Q12: Which best represents your use of the following health information technology in your primary work setting?

Q13: How comfortable are you using each of the following?

Q14: How beneficial are each of the following in terms of your patient outcomes?

Remote Patient Monitoring

- Remote patient monitoring is used by a third or less of both rural and non-rural health care professionals, except for optometrists, where less than 10% are using them.
- In both rural and non-rural communities, about half of physicians, NPs and PAs are interested in using remote patient monitoring. Just under half of RNs and over a third of optometrists are interested in using it.
- Comfort levels using remote patient monitoring range from about 50% to 65% across rural and non-rural health care professionals.

Table 12.5: Remote Patient Monitoring										
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
	A	B	A	B	A	B	A	B	A	B
<i>Total Respondents</i>	801	4212	702	708	301	577	505	550	125	500
Use										
Currently use	24	30 A	21	28 A	23	27	26	34	8	9
Interest in using	53 B	49	55 B	46	52	47	45	39	36	38
No interest in using	23	21	24	26	25	27	28	27	57	53
Comfort Level Using										
Comfortable/Very comfortable	64	57	50	52	48	55	52	52	46	48
Patient Outcomes Benefit										
Beneficial/Very Beneficial	65	69	68	74	63	76	na	na	75	62

(PC) = Primary care

Note: Yellow shading indicates statistical significance accounting for covariate influence.

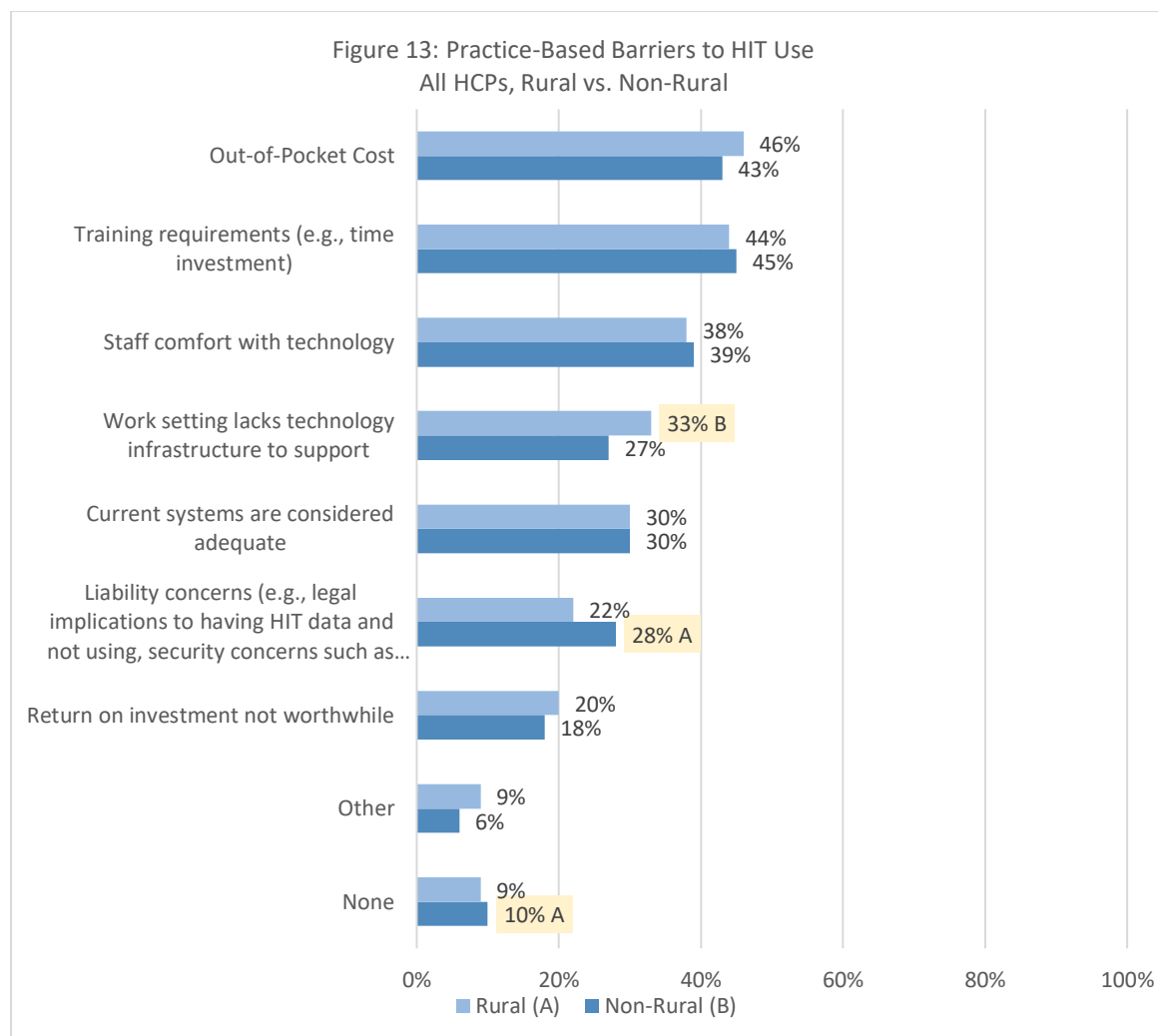
Q12: Which best represents your use of the following health information technology in your primary work setting?

Q13: How comfortable are you using each of the following?

Q14: How beneficial are each of the following in terms of your patient outcomes?

Practice Based Barriers to Health Information Technology Use

In both rural and non-rural communities, the largest practice-based barriers to HIT use are cost and training, followed by technology challenges (staff comfort and lack of technology infrastructure).



Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q15: In general, what, if any practice-based barriers do you face in using health information technology? Select all that apply.

Technological infrastructure is more often a barrier for rural physicians, while liability concerns are more often cited by non-rural pharmacists.

Table 13: Practice Based Barriers to HIT Use (Challenging/Very Challenging)				
Type of Care	HCP Type*	Rural (A)	Non-Rural (B)	% Point Gap (A) – (B)
Work setting lacks technology infrastructure to support	Physician (PC)	34 B	26	8
Liability concerns	Pharmacist	16	22 A	-6

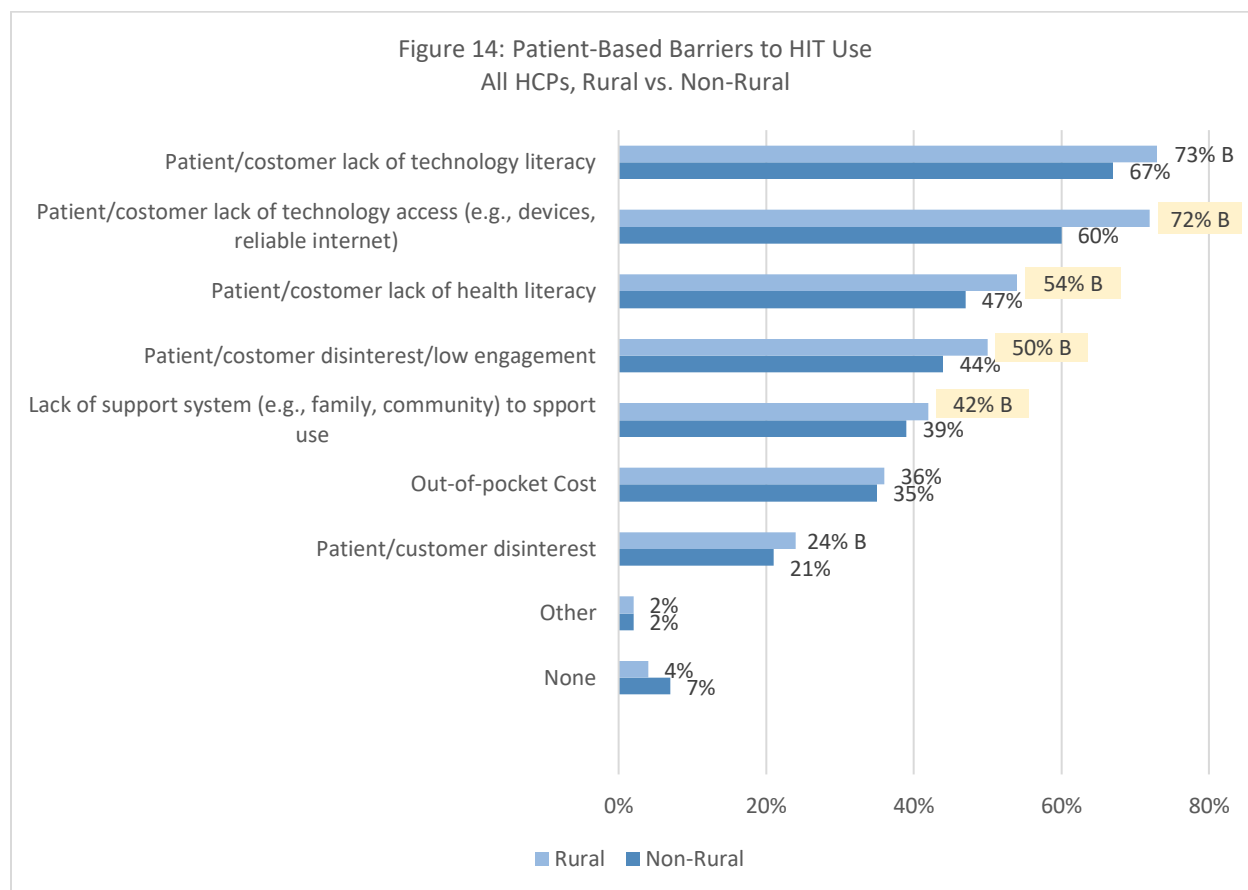
(PC) = Primary care

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q15: In general, what, if any practice-based barriers do you face in using health information technology? Select all that apply.

Patient-Based Barriers to Health Information Technology Use

The largest patient-based barriers to HIT use are lack of technology access and literacy, followed by low health literacy and patient disinterest. Though the pattern is the same, rural communities often face higher barriers.



Note: Yellow shading indicates statistical significance accounting for covariate influence.

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q16: What, if any, patient based/customer-based barriers do you face in using health information technology in your work setting? Select all that apply.

By clinician type, significant gaps are evident for rural and non-rural physicians on patient technological access and literacy, and for RNs on patient disinterest/low engagement.

Table 14: Patient- Based Barriers to HIT Use				
Type of Care	HCP Type*	Rural (A)	Non-Rural (B)	% Point Gap (A) – (B)
Patients lack technological literacy	Physicians (PC)	75 B	68	7
Patients lack technology access (e.g., devices, reliable internet)	Physicians (PC)	75 B	62	13
Patient disinterest/low engagement	Registered Nurses	54 B	45	9

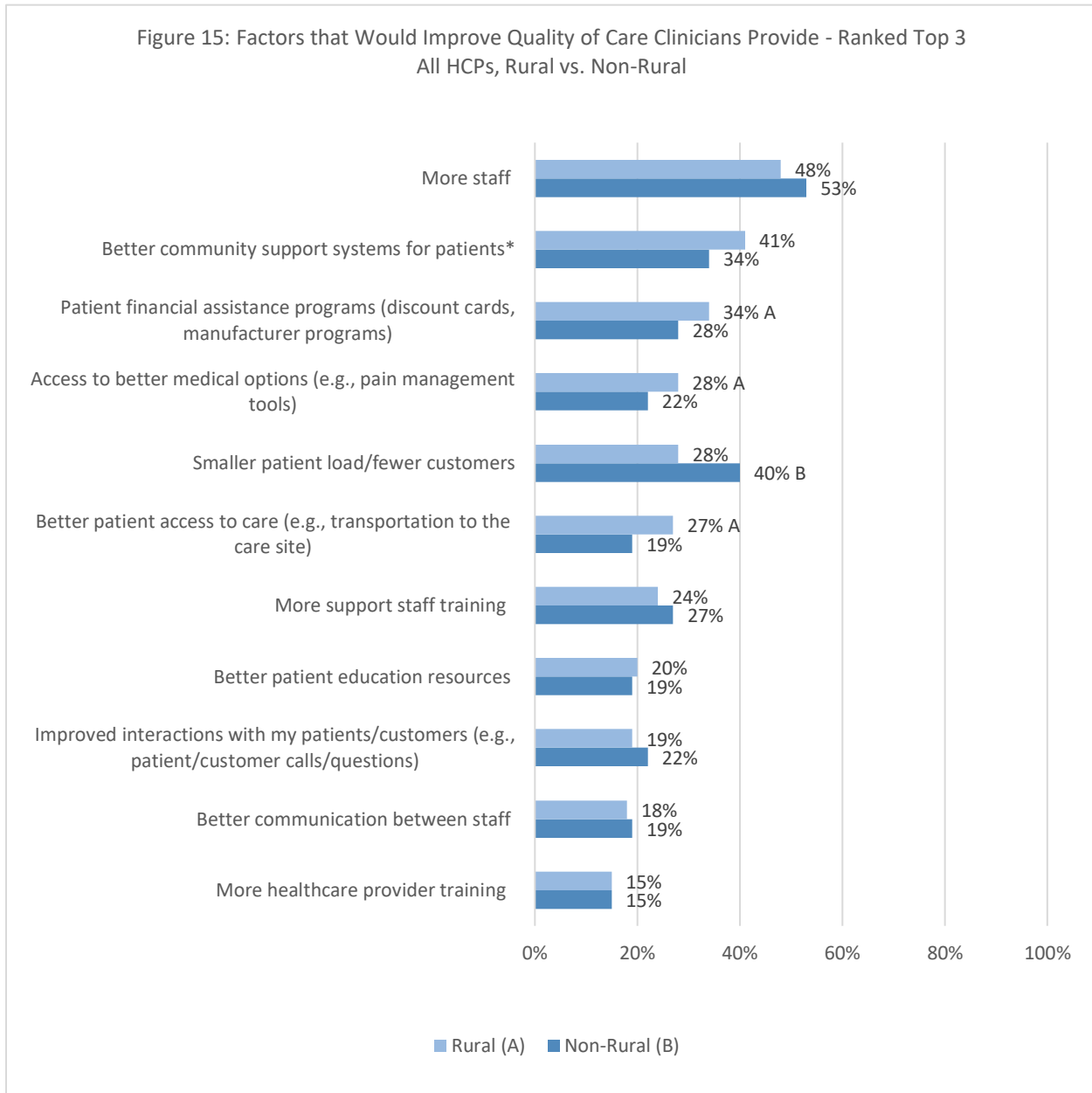
(PC) = Primary care

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q16: What, if any, patient based/customer-based barriers do you face in using health information technology in your work setting? Select all that apply.

Factors That Would Improve Quality of Care

In terms of factors that would improve the quality of care they provide, More Staff ranks highest for both rural and non-rural physicians. Better Community Support for Patients ranks second for rural health care professionals, while Smaller Patient Load ranks second for non-rural health care professionals.



*E.g., community health workers and programs

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q19: Which of the following would most improve the quality of care you personally provide right now? Please rank your top 3 choices where "1" is "Would most improve".

Better Community Support for Patients is more often a need for rural physicians, PAs and optometrists. Rural health care professionals also voice more concern over access to better medical options and better patient access to care. More staff and smaller patient loads are stronger factors for non-rural than for rural health care professionals.

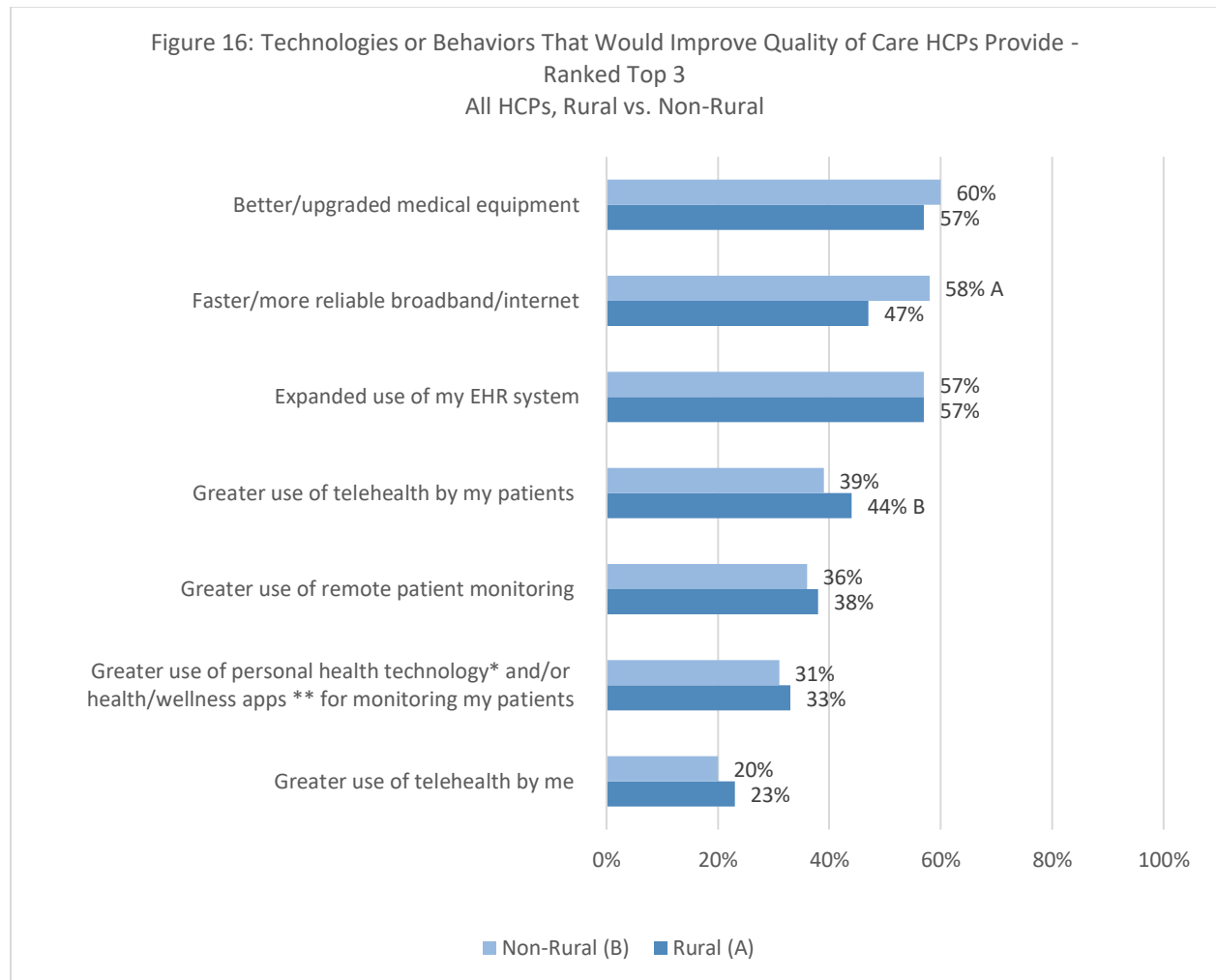
Table 15: Ranking of Factors That Would Improve Quality of Care - Top 3												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
	A	B	A	B	A	B	A	B	A	B	A	B
<i>Total Respondents</i>	801	4212	702	708	301	577	505	550	501	563	125	500
Better patient access to care (e.g., transportation to the care site)	28 B	18	29	25	27 B	20	26 B	17	21	18	25 B	12
Better patient education resources	19	20	21	22	19	21	19	16	24 B	19	24	22
Better community support systems for patients**	47 B	40	40	37	45 B	35	34	30	27	26	24 B	14
Smaller patient load/fewer customers	29	43 A	29	36 A	28	44 A	35	49 A	14	25 A	27	35
More staff	46	50 A	38	45 A	42	49 A	63	69 A	56	63 A	45	59 A
Access to better medical options (e.g., pain management tools)	28 B	23	33 B	26	35 B	23	21 B	15	20 B	14	19 B	12
Patient financial assistance programs (discount cards, manufacturer programs)	35 B	30	40 B	31	34	29	21	20	31	28	42	33

(PC) = Primary care

**e.g., community health workers and programs

Q19: Which of the following would most improve the quality of care you personally provide right now? Please rank your top 3 choices where "1" is "Would most improve".

Both rural and non-rural health care professionals agree that better medical equipment and expanded use of their EHR system are top tier in terms of improving the quality of care they can provide. Faster, more reliable broadband/internet is also often cited, more so by rural than by non-rural health care professionals (58% vs. 47%).



* e.g., Fitbit, Smartwatch

** (e.g., diet, fitness)

Base: Rural (n=2,935), Non-Rural (n=7,110)

Q20: Which technologies or behaviors would most improve the quality of care you personally provide? Please rank your top 3 choices where "1" is "Would most improve".

By clinician type, faster/more reliable broadband/internet shows the largest gaps between rural and non-rural health care professionals.

Table 16: Ranking of Technologies or Behaviors That Would Improve Quality of Care - Top 3

	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
	A	B	A	B	A	B	A	B	A	B	A	B
<i>Total Respondents</i>	801	4212	702	708	301	577	505	550	501	563	125	500
Better/upgraded medical equipment	52 B	45	51	50	52	52	67	65	na	na	78	78
Faster/more reliable broadband/internet	52 B	37	52 B	42	52 B	42	60 B	47	na	na	46	52
Expanded use of my EHR system	49	49	52	51	52	53	51	51	na	na	77	69
Greater use of telehealth by me	23	27 A	22	27 A	23	24	12	19 A	na	na	30	34
Greater use of telehealth by my patients	45	52 A	44	52 A	45	51	40	47 A	na	na	29	32
Greater use of remote patient monitoring	43	49 A	40	42	45	39	39	42	na	na	na	na
Greater use of personal health technology** and/or health/wellness apps *** for monitoring my patients	36	41 A	36	36	30	38 A	31	29	0	0	37	34

(PC) = Primary care

* e.g., Fitbit, Smartwatch

** (e.g., diet, fitness)

Q20: Which technologies or behaviors would most improve the quality of care you personally provide? Please rank your top 3 choices where "1" is "Would most improve".

Part 2: Health Care Professionals' Perceptions vs. Government Data

Key Findings

- Survey findings regarding gaps in access to care and barriers to care between Rural and Non-Rural communities and between the most and least socially vulnerable communities (SVI Quartile 1 vs. SVI Quartile 4) are supported by government data.
- Clinicians' ability to estimate the demographic characteristics (gender, age, race, ethnicity, income, insurance coverage) of their patient populations was consistent regardless of their practice location (Rural vs. Non-Rural) or community type (SVI Quartile 1 vs. SVI Quartile 4).

Access to and Barriers to Care

The findings of the HCPs' Perspectives on Health Equity in America survey suggest that rural communities have less access to and greater barriers to accessing various types of health care than do non-rural communities. Similarly, SVI Quartile 1 (most vulnerable) communities face less access and greater barriers than do SVI Quartile 4 (least vulnerable) communities. To assess whether government data supports these findings, variables from the Health and Human Resources Administration's (HRSA) *Area Health Resources Files (AHRF)* were chosen as proxies for the accessibility and barriers to care variables in the survey. These proxy variables were analyzed by comparing them based on rural vs. non-rural status and SVI Quartile 1 vs. SVI quartile 4 status.

As demonstrated in the tables below, the government data align with the findings of the HCPs' Perspectives on Health Equity in America survey. Rural and SVI quartile 1 (most vulnerable) communities show statistically significant differences in accessibility and in barriers to care compared to their counterparts (Non-Rural and SVI Q4) communities.

Table 1: Comparison of Government and Survey Data on Accessibility - Rural vs. Non-Rural					
Compared to Non-Rural communities, Rural communities have less access to:	Government Data			HCPs' Perspectives on Health Equity in America Survey Data	
	AHRF Variable (Per 1,000 county population):	Difference (Rural vs. Non-Rural) *	Proxy for Accessibility of:	Rural (Accessible/Very Accessible) (A)	Non-Rural (Accessible/Very Accessible) (B)
Primary care	# of primary care doctors	-0.2639	Primary care	80%	86% A
Specialty care	# of specialists	-0.8823	Specialty care	33%	71% A
Dental care	# of dentists	-0.2870	Dental Care	59%	71% A
Vision care	# of ophthalmologists and optometrists	-0.0611	Vision Care	68%	79% A
Urgent care	# of Emergency Medicine clinicians	-0.0882	Urgent Care	68%	87% A
Chronic care	# of cardiovascular disease specialists + gastroenterologists + pulmonologists + general internal medicine	-0.4070	Chronic Care	54%	78% A
Mental/behavioral health care	# of psychiatry specialists	-0.0986	Mental/Behavioral Health Care	25%	43% A

*Number per 1,000 county population

A/B designations represent statistically significant differences at the 95% confidence level

Note: Hospital, long-term care, home health care, and pharmacies are not shown due to significant confounding between the rural/non-rural locations and SVI

Table 2: Comparison of Government and Survey Data on Accessibility - SVI Q1 (Most Vulnerable) vs. SVI Q4 (Least Vulnerable)					
Compared to SVI Q4 communities, SVI Q1 communities have less access to:	Government Data			HCPs' Perspectives on Health Equity in America Survey Data	
	AHRF Variable:	Difference (SVI Q1 vs. SVI Q4)*	Proxy for Accessibility of:	SVI Q1 (Accessible/Very Accessible) (A)	SVI Q4 (Accessible/Very Accessible) (B)
Primary care	# of primary care doctors	-0.2413	Primary care	84%	87% A
Specialty care	# of specialists	-0.1277	Specialty care	59%	70% A
Dental Care	# of dentists	-0.2210	Dental Care	65%	74% A
Vision Care	# of ophthalmologists and optometrists	-0.0474	Vision Care	72%	82% A
Urgent Care	# of Emergency Medicine clinicians	-0.0489	Urgent Care	80%	86% A
Chronic Care	# of cardiovascular disease specialists + gastroenterologists + pulmonologists + general internal medicine	-0.0609	Chronic Care	72%	76% A
Mental/Behavioral Health Care	# of psychiatry specialists	-0.0200	Mental/Behavioral Health Care	39%	41%

*Number per 1,000 county population

A/B designations represent statistically significant differences at the 95% confidence level

Note: Hospital, long-term care, home health care, and pharmacies are not shown due to significant confounding between the rural/non-rural locations and SVI

Table 3: Comparison of Government and Survey Data on Barriers to Care - Rural vs. Non-Rural					
Compared to Non-Rural communities, Rural communities have:	Government Data			HCPs' Perspectives on Health Equity in America Survey Data	
	AHRF Variable:	Difference (Rural vs. Non-rural)	Proxy for:	Rural (Challenging/Very Challenging) (A)	Non-Rural (Challenging/Very Challenging) (B)
lower incomes	Median household income, \$	-\$15,418.67	affordability of healthcare	59% B	51%
more deep poverty	Percent in deep poverty	0.5853*			
lower per capita income	Per capita personal income, \$	-\$14,233.56	affordability of medications	52%	50%
more disability	Percent with disability	1.995*	disability	31%	28%
fewer foreign-born	Percent foreign-born	-9.9806*	cultural barriers	14%	23% A
fewer non-English speakers	Percent of non-English speakers	-2.7446*	language barriers	11%	21% A
more uninsured	Percent uninsured	5.5048*	lack of insurance	40% B	35%
fewer specialists	Number of specialists per 1000	-0.8823	lack of appropriate specialists in the community	55% B	23%

*Percentage points

A/B designations represent statistically significant differences at the 95% confidence level

Note: Number of nurses per 1,000 and percent of people older than 65 not shown due to significant confounding between the rural/non-rural locations and SVI

Table 4: Comparison of Government and Survey Data on Barriers to Care: SVI Q1 (Most Vulnerable) vs. SVI Q4 (Least Vulnerable)

Compared to SVI Q4 communities, SVI Q1 communities have:	Government Data			HCPs' Perspectives on Health Equity in America Survey Data	
	AHRF Variable:	Difference (SVI Q1 vs. SVI Q4)	Proxy for:	SVI Q1 (Challenging/Very Challenging) (A)	SVI Q4 (Challenging/Very Challenging) (B)
lower incomes	Median household income, \$	-\$29,795.81	affordability of healthcare	53% B	45%
more deep poverty	Percent in deep poverty	4.4778*			
lower per capita income	Per capita personal income, \$	-\$16,153.78	affordability of medications	53% B	47%
more disability	Percent with disability	2.2983*	disability	34% B	22%
more foreign-born	Percent foreign-born	6.7436*	cultural barriers	28% B	15%
more non-English speakers	Percent of non-English speakers	4.6313*	language barriers	26% B	13%
more uninsured	Percent uninsured	2.688*	lack of insurance	44% B	28%
fewer specialists	Number of specialists per 1000	-0.1277	lack of appropriate specialists in the community	39% B	24%

*Percentage points

A/B designations represent statistically significant differences at the 95% confidence level

Note: Number of nurses per 1,000 and percent of people older than 65 not shown due to significant confounding between the rural/non-rural locations and SVI

Health Care Professionals’ Ability to Estimate Patient Population Characteristics

To determine how well health care professionals in one cohort were able to estimate the demographics of their patient population compared to another, health care professional groupings were compared against their counterparts based on the accuracy of their estimates. Accuracy was assessed for estimates of each group’s patient population’s age, gender, race, Hispanic/Latino identity, income, and insurance coverage.

Comparisons were examined on the clinician level for the following groups:

- Rural vs. Non-Rural
- SVI Quartile 1 (Most Vulnerable) vs. SVI Quartile 4 (Least Vulnerable)
- Region (Midwest, Northeast, South, West)
- Race (African American, Asian, Caucasian)
- Hispanic/Latino vs. not Hispanic/Latino
- # Patients seen per week (<50 vs. 100+)
- Gender (Male vs. Female)

As an example, compared to AHRF estimates of gender, rural health care professionals underestimated the proportion of their patients who are male by 2.95 percentage points, while non-rural health care professionals underestimated the proportion of their patients who are male by 1.25 percentage points. This difference between the rural and non-rural health care professionals' error in the estimation of 1.7 percentage points was tested for statistical significance as a measure of whether one group was more accurate in estimating its patient population's characteristics than the other.

While there were statistically significant differences found between groups across the demographic characteristics, they were not materially important.

Limitations

There are several limitations to these comparisons.

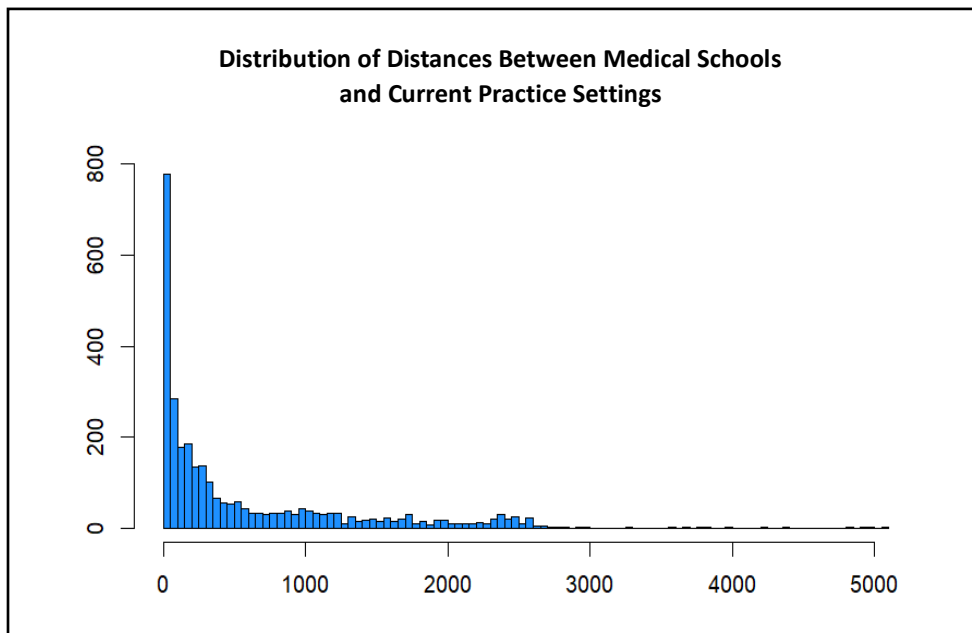
- We assume that the patients are representative of a large population. In general, it is a reasonable assumption, but potentially there could be certain groups that interact with health care professionals more frequently or less frequently than some other groups leading to potential biases in health care professionals' perceptions. For example, clinicians (with exception of pediatricians) tend to interact with younger people less frequently than they would if the proportions of the younger patients were the same as their proportion in a population since the younger people tend to have fewer health problems than the older people.
- The government data are available at the county level, while health care professionals interact within their community with a small subset of the population, so we may expect the difference between the larger population and the local community to be because of the sampling variability. In general, health care professionals that reported a larger number of patients tend to give estimates that are close to the population in general than the health care professionals that have a smaller number of patients.
- In some comparisons, we can compare perceptions and government data directly, while in some cases we only can use proxy parameters, and in some cases, we cannot make comparisons at all. For example, we can directly compare the percentage of certain population groups as health care professionals perceive them and the government data. However, we can't directly compare the availability of certain types of care on a five-point scale as HCPs we asked for in a survey and government data, but we can use the number of physicians per capita at the county level as a proxy for the availability of the healthcare. And finally, there are no good proxy measures for certain comparisons at all. For example, we asked how challenging the waiting time is to secure a medical appointment, however, there is no government data for that.
- Typically, there is a lag of a year or even several years in reporting government data since it takes time to process the results and the differences may be reflecting the time lag.
- The SVI is a composite index constructed from 15 social factors grouped into four themes: <http://svi.cdc.gov> Certain variables analyzed in this report show significant confounding between some of the SVI components and rural/non-rural locations which prevents making clear conclusions about the overall differences between SVI quartiles.

V. APPENDIX

Distance Between Medical School Attended and Current Practice Location

To determine how often physicians work within close proximity to the medical school they attended, the distance between each physician’s current practice setting and their medical school was calculated based on zip codes. These distances were divided into eight categories: ≤50 miles, 51-100 miles, 101-200 miles, 201-300 miles, 301-500 miles, 501-1,000 miles, >1,000 miles and Foreign.

The distribution of the distances between the zip codes of the medical school and the current locations is shown on the figure below. The chart shows that many physicians who attend US medical schools work within 300 miles of their place of study. The breakdown of the distribution is shown in Table 1.



The distances were used as a covariate in the statistical models for physicians using the breakdown shown below.

Table 1: Miles Between Medical School Attended and Current Practice Location									
	≤ 50	51 to 100	101 to 200	201 to 300	301 to 500	501 to 1000	> 1000	Foreign	Missing / unknown
N (unwtd)	777	285	363	272	277	373	645	1178	843
% (unwtd)	15%	6%	7%	5%	6%	7%	13%	23%	17%

*Based on American Medical Association (AMA) data.

In the sample, the proportion of the respondents who attended foreign medical schools (23%) is similar to that in the overall AMA database (25%). Interestingly, three out of top five foreign medical schools, based on the number of graduates in the AMA database, are located in the Caribbean and likely attended by US citizens.

Comparison of Distances Between Practice and Medical School: Rural and Non-Rural Physicians

Physicians in non-rural locations more are more evenly split between different distances compared to their rural counterparts, who tend to work relatively close to the place where they studied, but not within driving distance (6% of non-rural physicians work within 51 to 100 miles and 7% within 101 to 200 miles, compared with 12% and 18%, respectively, of rural physicians). Because of the interplay between the distance and the location, comparisons of the differences of opinion between the rural and non-rural physicians who had the shortest distances (≤ 50 miles) vs. longer distances (51 to 500 miles), or very large distances (>1000 miles) essentially reflect the differences between rural and non-rural physicians. The differences between the long distances (501 to 1000 miles) and very long distances (> 1000 miles) are negligible. A separate study would be required to understand the effect of distance independent of the effect of location.

Table 2: Distance from Medical School: Rural vs. Non-Rural			
Distance (miles)	Rural (A)	Non-Rural (B)	% Point Gap (A) - (B)
≤ 50	6%	21% A	-15
51 to 100	12% B	6%	6
101 to 200	18% B	7%	11
201 to 300	11% B	6%	5
301 to 500	9% B	6%	3
501 to 1000	11%	9%	2
> 1000	14%	15%	-1
Foreign	19%	30% A	-11

The numbers in the table represent weighted percentages adjusted for missing / unknown

Comparison of Distances Between Practice and Medical School: Most and Least Vulnerable Social Vulnerability Index (SVI) Quartiles

Physicians practicing in the most vulnerable quartile are more likely to studied far away (> 1000 miles, 21%) or abroad (33%) compared to the physicians from the least vulnerable quartile who are more likely to studied close to their current practice setting (\leq 50 miles).

Table 3: Distance from Medical School: SVI Q1 vs. SVI Q4			
Distance (miles)	SVI Q1 (Most Vulnerable) (A)	SVI Q4 (Least Vulnerable) (B)	% Point Gap (A) - (B)
\leq 50	15%	24% A	-9
51 to 100	5%	7%	-2
101 to 200	7%	11%	-4
201 to 300	6%	9%	-3
301 to 500	6%	6%	0
501 to 1000	7%	10% A	-3
> 1000	21% B	9%	12
Foreign	33% B	24%	9

The numbers in the table represent weighted percentages adjusted for missing / unknown

Relationships Between Practice Settings and Medical School Locations

The majority of physicians (95%) attended medical schools in non-rural areas, while only 5% attended schools in rural areas. This is significantly different (p-value < 0.01) from the proportion of physician respondents who practice in rural (18%) vs. non-rural areas (82%). The calculations were done for unweighted data for physicians who studied in US and have non-missing information about their place of study.

Table 4: Practice Setting and Medical School Location			
Practice Setting	Medical School Location	% Physicians	N (unwtd)
Rural	Rural	2%	47
Non-Rural	Rural	3%	100
Rural	Non-Rural	16%	477
Non-Rural	Non-Rural	79%	2366

Table 1.1: Accessibility of Care - T2B Ratings (Accessible/Very Accessible)

	Rural						Non-Rural					
	Phys (PC) (%)	NPs (PC) (%)	PAs (PC) (%)	RNs (%)	PHs (%)	ODs (%)	Phys (PC) (%)	NPs (PC) (%)	PAs (PC) (%)	RNs (%)	PHs (%)	ODs (%)
	A	B	C	D	E	F	A	B	C	D	E	F
<i>Total Respondents</i>	801	702	301	505	501	125	4212	708	577	550	563	500
Mental/behavioral health care	20	21	25	31 A	36 A B	49 A B C	39	37	42	44 B	54 A B C D	69 A B C D E
Specialty care	38 B E	25	34	32	24	40	77 B C D E	66 E	67 E	68 E	57	76 B C D E
Chronic care (e.g., dialysis, diabetes)	58 B	46	49	56	46	60	80 B C E	76	72	79 C E	70	82 B C E
Long-term care	52	53	50	65 A	55	65	63	65	59	71 A C E	61	76 A B C E
Dental care	54	52	55	67 A B	76 A B C	86 A B C D	69	65	67	73 B C	77 A B C	93 A B C D E
Home health care	65 E	61	56	68 E	51	65	72 C E	69 E	64	74 C E	61	71 E
Urgent care	69	65	69	67	64	80	89 B E	85	86	85	82	91 B C D E
Vision care	68	62	60	72	69	88 A B C E	80 B E	73	76	77	74	97 A B C D E
Hospitals	82	74	75	80	75	80	92 E	90	89	92 E	88	92
Primary care	76	83	83	83	82	85	84	86	86	89 A	84	92 A B C E
Pharmacies	90	88	89	90	91	94	95	94	93	93	94	97 C D

(PC) = Primary care

Q9: Please rate the accessibility of each of the following in the community where you primarily work.

Table 2.1: Quality of Care – T2B Ratings (Very Good/Excellent)

	Rural						Non-Rural					
	Phys (PC) (%)	NPs (PC) (%)	PAs (PC) (%)	RNs (%)	PHs (%)	ODs (%)	Phys (PC) (%)	NPs (PC) (%)	PAs (PC) (%)	RNs (%)	PHs (%)	ODs (%)
	A	B	C	D	E	F	A	B	C	D	E	F
<i>Total Respondents</i>	801	702	301	505	501	125	4212	708	577	550	563	500
Mental/behavioral health care	18	15	17	14	21	29	29	28	31	27	35 A B D	52 A B C D E
Long-term care	29	24	25	25	28	33	37 B C D	32	31	31	36	54 A B C D E
Chronic care (e.g., dialysis, diabetes)	41 B D E	29	33	27	27	41	57 B C D E	47	47	46	45	59 B C D E
Specialty care	41 B D E	29	38 E	27	20	39 E	69 B C D E	55 E	58 E	52	47	70 B C D E
Urgent care	38	36	43	32	36	50	57	55	57	53	53	71 A B C D E
Home health care	44 E	39	36	37	30	39	47 B C E	41	39	44 E	35	53 B C D E
Hospitals	52 B D	37	42	39	43	48	72 B C D E	64	63	63	63	75 B C D E
Dental care	47	39	43	40	52	73 A B C D E	55 B	50	52	50	53	79 A B C D E
Vision care	54 D	45	50	39	49	87 A B C D E	64 B C D E	55	57	53	53	90 A B C D E
Primary care	66 D E	63	68 D	50	54	63	72 D E	69 D E	70 D E	60	59	77 B C D E
Pharmacies	66	62	66	56	73 D	73	71 D	66	68	65	67	79 A B C D E

(PC) = Primary care

Q10: Please rate the general quality of each of the following in the community where you primarily work.

Health Care Professional Demographics (Weighted)

Number of Patients Seen per Week												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	801	4212	702	708	301	577	505	550	0	0	125	500
Patients seen per week	81	86 A	70	72	79	80	47	50	na	na	76	83

(PC) = Primary care

QS4: How many patients do you currently see in a typical week, across all conditions (in person or via telehealth)?

Work Setting												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	801	4212	702	708	301	577	505	550	501	563	125	500
Office (Net)	30	29	29 B	22	19	20	7	6	1	3	70 B	59
Solo practice	13	10	10	6	7	7	2	1	na	na	na	na
Single-specialty group practice	12	12	14	12	8	11	3	3	na	na	na	na
Multispecialty group practice	5	7	5	4	3	2	2	2	na	na	na	na
Pharmacy (independent or chain)	0	0	0	0	0	0	0	0	51 B	33	0	0
Retail/grocery store	0	0	0	3 A	0	0	0	0	12	16	2	6
Office	30	29	29 B	22	19	20	7	6	1	3	70 B	59
Hospital	25	23	10	10	12	17	34	44 A	25	31	0 ⁺	3
Healthcare facility	12	11	11	15	12	14	28	24	8	12	12	16
Outpatient clinic	29	29 B	22	19	20	7	6	1	3	70 B	59	15
Academic (nonhospital), research, military, government	3	5 A	2	4	2	4	3	3	2	7 A	3	3
Other	3	5 A	2	4	2	4	3	3	2	7 A	3	3

(PC) = Primary care

S7/D1: Which best describes your current work setting?

Retail Outlet/Pharmacy Where Employed												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	1	5	2	19	0	1	0	2	308	264	3	32
CVS	0	20	0	73	0	0	0	67	8	22 A	0	3
Target	0	20	0	0	0	0	0	0	0	3	50	3
Walgreens	0	40	0	3	0	0	0	0	6	15 A	0	0
Other	100	60	100	27	0	100	0	67	87	64 A	50	97

(PC) = Primary care

Asked only of those who work in pharmacy or retail/grocery

S7a: Where are you currently employed? Select all that apply.

Work Situation												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	801	4212	702	708	301	577	505	550	501	563	125	500
Owner	21% B	17%	6%	4%	3%	1%	1%	1%	9% B	3%	48	27%
Partner	6%	12% A	1%	2%	1%	2%	0%	0%	3% B	1%	10%	10%
Employee	64%	64%	86%	88%	91%	93%	97%	95%	82%	92% A	32	54% A
Independent contractor	10% B	8%	6%	6%	6%	4%	2%	4%	6%	5%	10%	9%

(PC) = Primary care

D2: Which best describes your current work situation?

Years in Practice												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	801	4212	702	708	301	577	505	550	501	563	125	500
5 or fewer	11	12	33	31	27	26	11	15	8	19 A	8	16
6 to 10	10	14 A	24	23	15	20	18	23	18	21	16	18
11 to 20	21	26 A	22	23	26	27	28	30	20	25	22	22
21 to 30	32	29	16	17	21	19	25 B	17	21	17	23	21
31 or more	26 B	20	5	6	11	7	19	16	33 B	17	31	24

(PC) = Primary care

D3: How many years have you been in practice, post residency/training?

Gender												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	801	4212	702	708	301	577	505	550	501	563	125	500
Male	60	57	9	10	34	30	7	9	48	45	68	59
Female	38	40	89	89	63	67	91	87	50	50	30	39
Prefer to self-describe	0	0	0	0	1	0	0	0	0	0	1	0
Prefer not to say	2	2	1	1	2	3	2	4	2	5	2	2

(PC) = Primary care

D4: What is your gender?

Race/Ethnicity												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	801	4212	702	708	301	577	505	550	501	563	125	500
African American/Black	4	5	4	7	2	4	4	7	1	5 A	0	2
American Indian or Alaska Native	2	1	2	1	1	1	3 B	1	2	1	1	0
Asian	9	24 A	1	9 A	4	11 A	2	7 A	3	19 A	2	20 A
Caucasian/White	79 B	59	90 B	77	88 B	78	88 B	76	93 B	66	90 B	70
Native Hawaiian/Pacific Islander	1	1	0	1	0	1	1	1	0 ¹	2	0	0
Other	3	5 A	1	2	3	3	1	3	1	3	0	2
Hispanic/Latino	3	6 A	2	7 A	3	5	4	4	1	4 A	2	5

(PC) = Primary care

D5: Which of the following groups do you identify with? Select all that apply.

D6: Are you Hispanic/Latino/a, or of Spanish origin?

Household Income												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	801	4212	702	708	301	577	505	550	501	563	125	500
Over \$135,000	82	86 A	55	57	54	59	18	26 A	57	58	73	71
\$45,000- \$135,000	16 B	12	43	42	45	40	78 B	70	41	40	26	27
Under \$45,000	2 B	1	2	1	1	1	5	4	2	2	1	2

(PC) = Primary care

D7: Is your household income . . . ?

Region of Practice												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	801	702	301	505	501	125	4212	708	577	550	563	500
Midwest	31 B	19	32 B	20	31 B	17	36 B	22	38 B	22	36 B	22
Northeast	14	21 A	9	21 A	18	26 A	13	20 A	13	20 A	11	19
South	34	33	46	41	31	35	35	37	35	37	39	32
West	22	27 A	13	18	20	22	16	21	14	22 A	14	28 A

Clinician Demographics (Unweighted)

Work Setting												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	801	4212	702	708	301	577	505	550	501	563	125	500
Office (Net)	30 C D E	28 C D E	18 D E	7 E	1	70 A B C D E	29 B C D E	22 D E	19 D E	6	3	58 A B C D E
Solo practice	12	10	7	2	0	0	10	6	6	1	0	0
Single-specialty group practice	12	13	8	3	0	0	12	12	10	3	0	0
Multispecialty group practice	5	5	3	2	0	0	7	4	2	2	0	0
Pharmacy (independent or chain)	0	0	0	0	0	0	0	0	50 A	33 A B D	0	0
Retail/grocery store	0	0	0	3 A C	0	0	0	0	12 B F	17 A B C F	2 B	6 A B C
Office	30 C D E	29 B C D E	28 C D E	22 D E	18 D E	19 D E	7 E	6	1	3	70 A B C D E	58 A B C D E
Hospital	25 B C	23 B C F	10	10 F	12	16 B F	34 A B C	43 A B C E F	26 B C	30 A B C F	0 ¹	3
Healthcare facility	12	11	11	15 A	12	14	29 A B C E F	25 A B C E F	8	11	11	16 A
Outpatient clinic	47 D E F	46 D E F	54 A D E F	52 D E F	68 A B D E F	56 A D E F	18 E	19	6	13	15 E	15
Academic (nonhospital), research, military, government	3	6	2	4	2	4	3	3	2	7	2	3
Other	3	2	7 A	9 A C F	4	4	17 A B C E F	15 A B C E F	3	6 A F	2	2

S7/D1: Which best describes your current work setting?

Work Situation												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	801	4212	702	708	301	577	505	550	501	563	125	500
Owner	21 B C D E	16 B C D E	7 D	4 C D	3	1	1	1	9 C D	3	51 A B C D E	26 A B C D E
Partner	6 B C D	12 B C D E	1	2	1	2	0	0	3	1	7 B C D	10 B C D E
Employee	64 F	65 F	86 A F	88 A F	91 A E F	93 A B F	97 A B C E F	95 A B F	83 A F	92 A F	32	55
Independent contractor	10 B D E	8 C	6 D	6	5.6 D	4	2	4	5 D	5	10 D	9 C D E

D2: Which best describes your current work situation?

Years in Practice												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	801	4212	702	708	301	577	505	550	501	563	125	500
5 or fewer	12	12	33 A D E F	31 A D E F	27 A D E F	28 A D E F	11	15	9	19 A	8	16
6 to 10	10	14	24 A	23 A	16	21 A	19 A	23 A	19 A	21 A	18	19
11 to 20	22	26	22	23	27	27	28	30	20	25	22	23
21 to 30	32 B C D E	29 B C D E F	16	16	20	19	24 B	17	21	18	25	22
31 or more	25 B C	19 B C	5	6	10 B	6	19 B C	16 B C	32 B C D	17 B C	26 B C	20 B C

D3: How many years have you been in practice, post residency/training?

Gender												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	801	4212	702	708	301	577	505	550	501	563	125	500
Male	57 B C D E	54 B C D E F	10	10	28 B D	25 B D	7	9	42 B C D	39 B C D	54 B C D	43 B C D
Female	41	43	89 A C E F	88 A C E F	69 A E F	72 A E F	91 A C E F	87 A C E F	56 A	55 A	43	54 A
Prefer to self-describe	0	0	0	0	1	0	0	0	0	0	1	0
Prefer not to say	2	3	1	1	3	3	2	4	2	5 A B	2	3

D4: What is your gender?

Race/Ethnicity												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	801	4212	702	708	301	577	505	550	501	563	125	500
African American/Black	3	4	2	3	1	0	5	7 F	5	6 F	5	2
American Indian or Alaska Native	1	2	1	3	2	1	1	2	1	1	1	1
Asian	9 B D E	1	4 B	2	3	3	24 B C D	10	12	7	19 B C D	24 B C D
Caucasian/White	79	89 A	88 A	88 A	92 A	90 A	58	77 A E F	77 A E F	76 A E F	64	67 A
Native Hawaiian/Pacific Islander	1	0	0	1	0	0	1	1	1	1	2	0
Other	3 E	1	3	2	1	0	5	3	3	3	2	2
Hispanic/Latino	3	6	2	7	2	5	4	4	1	4	2	5

D5: Which of the following groups do you identify with? Select all that apply.

D6: Are you Hispanic/Latino/a, or of Spanish origin?

Region of Practice												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	801	702	301	505	501	125	4212	708	577	550	563	500
Midwest	31	30	32	41 A B	36	39	19	18	18	26 A B C	20	22
Northeast	14	9	12	14	14	13	21	21	18	21	22	21
South	34	43 A C D E	29	28	35	32	33 F	3 F	33 F	30	35 F	25
West	22	18	27.2 B D E	17	16	16	27	23	31 B D	23	24	32 B D E

Household Income												
	Phys (PC)		NPs (PC)		PAs (PC)		RNs		PHs		ODs	
	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)	Rural (%)	Non-Rural (%)
Total Respondents	82 B C D E	54 D	54 D	18	57 D	72 B C D E	86 B C D E F	57 D	58 D	26	57 D	69 B C D E
Over \$135,000	16	44 A F	45 A F	78 A B C E F	41 A F	26 A	13	42 A F	40 A F	70 A B C E F	40 A F	29 A
\$45,000- \$135,000	2	2	1	5 C	2	2	1	1	1	3 A B	2	2
Under \$45,000	82 B C D E	54 D	54 D	18	57 D	72 B C D E	86 B C D E F	57 D	58 D	26	57 D	69 B C D E

D7. Is your household income . . . ?