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SOCIOLOGY | RESEARCH ARTICLE

Understanding the interconnection between routine screening behavior, socio-demographics, quality of care, trust, and communication experiences with health-care professionals

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Abstract: Introduction: Routine screening is an integral aspect of health care. The literature says little about how health-screening behaviors might be predicted based on trust, quality of care and communication within the professional–patient relationship—things that ultimately delimit attitudes towards routine screening.

Methods: This study employed data derived from the 2017 Health Information National Trends Survey (HINTS). Bivariate relationships and two step-hierarchical multiple regression techniques were used to examine associations between routine screening behavior and sociodemographic factors, and to identify any mediating role in such associations played by one or more health-care factors.

Results: Native English speakers were significantly more likely than less-fluent non-native speakers to perceive the quality of care received to be high, [$p < .001$, $d = .45$] communication to be better [$p = .01$, $d = .32$] and trusted more [$p = .02$, $d = .14$]. health-care factors *trust* ($b = .105$, $p = .000$) and *quality* ($b = .061$, $p = .028$) were associated significantly with routine screening behavior, while *communication* ($b = .046$, $p = .192$) was not. At Step 2, explained variance increased by 2%, adding health-care factors raised the measure of F-value significantly.

Discussion: The small variance implies the need to seek further relevant correlates of routine screening behavior. As health-care systems continue turning toward

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Ann Oyare Amuta-Jimenez The authors' research area focuses on chronic disease prevention across the lifespan. Chronic disease prevention with emphasis on cancer and Type 2 Diabetes: (1) the understanding and utilization of genomics/family history information for chronic diseases prevention interventions, (2) socio-cognitive and environmental influences on health behaviors related to chronic disease prevention (Nutrition, Physical Activity and Routine Screening), and (3) Health disparities related to Type 2 Diabetes and cancer occurrence and survival. The authors wanted to examine how health-screening behaviors might be predicted based on trust, quality of care and communication within the professional–patient relationship—things that may ultimately delimit attitudes towards routine screening.

PUBLIC INTEREST STATEMENT

Findings from this work identify three main results of interest: 1) sociodemographic and health-care factors that per the literature are linked to health may not be linked specifically with taking preventive health measures. Distinct perspectives are involved in predicting health versus predicting preventive measures taken to preserve health. 2) non-native English speakers reported very low trust, quality and poor communication with health-care professionals. 3) A third interesting interpretation involves the small variance we found to be explained by the combined sociodemographic and health-care factors. This variance implies that we need to seek further relevant correlates of routine screening behavior.

preventive strategies, grasping the social determinants of preventive screening behavior could prove useful for improving the health of the nation's residents. Also, cultural understanding by health professionals is pertinent and required to capitalize on immigrant groups' health-care-seeking behaviors and facilitate competent delivery of care.

Subjects: Social Sciences; Behavioral Sciences; Communication Studies; Health and Social Care

Keywords: communication; trust; quality of care; health promotion; routine screening

1. Introduction

Routine medical screening for disease is an integral aspect of modern health care. There have been various controversies about screening, but studies show the importance of routine screening in disease prevention and treatment cannot be underestimated (Hayes & Barry, 2014; Memon, Kanwal, Sami, Larik, & Farooq, 2015; Vaccarella, Lortet-Tieulent, Plummer, Franceschi, & Bray, 2013). There are many benefits of routine screening, including detection of diseases early in asymptomatic individuals and subsequent treatment to reduce morbidity, mortality and the associated costs (Maxim, Niebo, & Utell, 2014; Saquib, Saquib, & Ioannidis, 2015).

Healthy People 2020, an initiative released by the US Department of Health and Human Services, defined the nation's current public health priorities in prevention and health promotion (Healthy People.gov 2020 Topics and Objectives—Objectives A–Z -Cancer, 2018; Koh, 2010). In the context of some chronic diseases, Healthy People aims to increase the proportion of individuals who receive screening consistent with the US Preventive Services Task Force (USPSTF)'s evidence-based guidelines (Royce, Hendrix, Stokes, Allen, & Chen, 2014). As such, health-care professionals are encouraged to recommend screening and preventive interventions to their patients by professional guidelines, while patients likewise are encouraged to participate in a range of national screening programs that can aid with early detection and treatment (Hudson, Zarifeh, Young, & Wells, 2012). Considering that, it is of utmost importance that health-care professional and patient relationship is optimal to ensure that routine screening that is beneficial to patients is recommended and performed.

The relationship between the health-care professional and the patient constitutes the core of health-care service delivery (Berry et al., 2008; Thom, Hall, & Pawlson, 2004). This professional–patient relationship has been closely scrutinized, considering its role in both screening for and managing the disease. Key to the professional–patient relationship is trust: The patient's trust in the care provider drives effective clinical encounters (Croker et al., 2013). Berry et al. (2008) reported that such trust exists when the patient perceives the professional as sincere, credible, honest, and benevolent (Thom et al., 2004). Furthermore, trust has been found to be a global attribute of treatment relationships, in that it encompasses subsidiary features such as satisfaction, communication, competency, and privacy—each of which is important (Chang, Chen, & Lan, 2013; Hall, Dugan, Zheng, & Mishra, 2001). Where service encounters based on the interpersonal exchange are concerned, trust's influence on service quality and customer satisfaction cannot be ignored (Chang et al., 2013).

Trust has a central role in all medical relationships and contributes importantly to good therapeutic outcomes (Berry et al., 2008; Mainous, Baker, Love, Gray, & Gill, 2001; Musa, Schulz, Harris, Silverman, & Thomas, 2009; Thom et al., 2004). The numerous benefits that accrue from a trusting, confident professional–patient relationship include but are not limited to: open communication of information between the parties and subsequent encouragement and enabling of the patient's adherence to medical advice, positive health outcomes with accompanying satisfactory patient perception of care received (Croker et al., 2013). In turn, insufficient trust in the health professional is associated with fewer interactions between professional and patient; weak clinical relationships

exhibiting little continuity; relatively little adherence to medical advice; worse self-reported health; and relatively little use of health care (Musa et al., 2009). There is a dearth of published research tending to establish that trust in medical professionals predicts such instrumental variables as the use of preventive services, adherence to advice, and continued enrollment (Thom et al., 2004). More research exists, however, identifying—consistently—that by measuring the trust patients have in the professionals they consult, systemwide failings as well as communication hurdles on an individual level can be brought to light (Thom et al., 2004). Understanding these problems can ultimately increase access to care, reduce disparities in care, and boost the quality of care and desirability of outcomes (Thom et al., 2004).

Providing quality care to patients requires effective communication. Two of three main tasks of health-care providers involve communication directly: Establish rapport and trustworthiness; understand the patient's problem; and attempt to ameliorate the problem (Ahmed, Lee, Shommu, Rumana, & Turin, 2017). Conducting a systematic narrative review of available research on communication between professional and patient, Ahmed et al. (2017) illustrated that a lack of common language shared by the parties strongly affects *all three* tasks. Further, compliance with medical or general health advice appears largely dependent on clear communication between populations and health professionals (Ahmed et al., 2017). Researchers have also found clear, effective communication nurture professional-patient relationships; improve adherence with the medication regimen prescribed; facilitate optimal care; improve health outcomes; and lessen the likelihood of grievances filed with regulatory authorities (Salt, Rayens, & Frazier, 2014). Ineffective communication, on the other hand, can create misunderstanding and frustration troubling to patient and professional alike, with a negative impact on patient care (Ahmed et al., 2017).

Extant investigations of the professional-patient relationship demonstrate a range of methodologies and foci (e.g., care's association with degree of trust and patient satisfaction; care's association with effectiveness of communication). To date, however, such investigations have looked infrequently, if at all, at important sociodemographic factors. It is known that age, education, race, income, immigration status, English literacy, marital status, and gender all are correlates of the professional-patient relationship—affecting, for example, behavior related to health screenings. Thus, the potential role of sociodemographic variables in the professional-patient relationship, and in the health outcomes that depend on that relationship, certainly warrants exploration.

The literature to date says little about how health-screening behaviors might be predicted based on trust, confidence, and quality of communication within the professional-patient relationship—things that ultimately delimit quality of care. Most patients today retain trust in health-care providers, according to evidence, believing providers act in patients' best interests. But the concern is growing that rapid, far-reaching changes in health care put real pressure on such trust and are perhaps undermining it (Pearson & Raeke, 2000). This concern has led to the recognition of a need to exhaustively understand trust's role in the professional-patient relationship specifically as it regards proactive health screening. Seeking routine health screening is a behavior indicative of relative health. The present study sought to link this behavior to (a) sociodemographic factors, (b) degree of patient trust, (c) pattern of communication with care providers, and (d) perceived quality of care. The study also constitutes an exploration of some health-care factors' possible mediating roles in routine screening's associations with select sociodemographic factors. We must thoroughly understand sociodemographic influences on the seeking of health screening, before we will be able to appropriately curtail or exploit them via population-based interventions that promote routine screening and thus foster desirable health outcomes.

2. Methods

2.1. Data

This study employed data derived from the 2017 Health Information National Trends Survey (HINTS), first iteration, fifth cycle. The cross-sectional HINTS survey was designed to identify health

information needs of people in the United States. Its data were nationally representative of the population of Americans who were noninstitutionalized and at least 18 years of age. HINTS researchers obtained one response per household by inviting the adult household member whose birthday would occur soonest to complete the survey; data were gathered during January–May 2017. Random sampling was performed based on a database of all nonvacant US addresses, which provided the sample frame. Researchers sent four mailings to each randomly selected addressee: an initial piece of mail, a reminder mailing, and two further follow-up mailings.

2.1.1. *Dependent variable*

Routine screening behavior was the dependent variable and was measured by asking survey participants the following: “About how long has it been since you last visited a doctor for a routine checkup? A routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition.” Offered responses were “Within the past year (anytime less than 12 months ago),” coded as 4; “Within the past 2 years (1 year but less than 2 years ago),” coded as 3; “Within the past 5 years (2 years but less than 5 years ago),” coded as 2; “5 or more years ago,” coded as 1; and “Never,” coded as 0. We excluded from our data analysis the offered response “I don’t know.”

2.1.2. *Independent variables*

We included four kinds of independent variables. First, a 3-item index measured *trust of health-care information*, asking participants about their likely confidence in health/medical information received from a healthcare professional, that received from a government organization, and that received from a charitable organization. Participants answered using a 4-point Likert scale ranging from 1 (*Not at all*) to 4 (*A lot*), and a total score was assigned to each participant by averaging his/her scores for the three items. The index’s internal consistency was moderately reliable ($\alpha = .78$).

Second, we allowed a 6-item index to measure the *quality of communication with health-care professionals*. Sample items are “How often did your provider give you the chance to ask all the health-related questions you had?” and “How often did your provider explain things in a way you could understand?” Participants answered using a 4-point Likert scale ranging from 1 (*Never*) to 4 (*Always*), and a total score was assigned to each participant by averaging his/her scores for the six items. The index’s internal consistency showed high reliability ($\alpha = .92$).

Third, we measured the *quality of healthcare received* by asking participants “Overall, how would you rate the quality of care you received in the last 12 months?” Participants answered using a 5-point Likert scale ranging from 1 (*Excellent*) to 5 (*Poor*).

For the present study, seven sociodemographic variables were also measured. They are *age* (all participants were 18 + years old); *race* (either Black, White, Asian, Hispanic, or Other); *marital status*; *English proficiency*; *income*; *education*; and *gender*.

2.2. *Data analysis*

We wanted to examine the bivariate relationships in which each of our sociodemographic variables was associated with each of our health-care factors (*trust of health-care information*, *quality of communication with health-care providers*, and *quality of health care*). To do so, first, we used ANOVA testing, *t*-tests, and correlation coefficients. Then, we used hierarchical multiple regression techniques to examine associations between routine screening behavior and our sociodemographic factors, and to identify any mediating role in such associations played by one or more of our health-care factors. Before deploying any multiple-regression analyses, we looked for any statistical violations of assumed normality, linearity, and multicollinearity. We found no violation of standard assumptions. Step 1 in our process of hierarchical multiple regression incorporated all seven sociodemographic characteristics (gender, income, marital status, English literacy, race, education, insurance); Step 2 added to that our three health-care factors. The data collection for HINTS had featured a complex multistage sample design. We, therefore, declared the survey design prior to data analyses and applied jackknife replication weights in SPSS in light of the sample design’s complexity.

3. Results

Table 1 presents descriptive information for all categorical demographics variables, along with means and standard deviations for continuous variables. The final sample comprised 3,285 participants, their mean age being 56.34 (\pm 16.14); females constituted most (58.3%) of the

Table 1. Frequency statistics for variables (n = 3.285)

		<i>n</i>	%
Gender			
	Female	1914	58.3
	Male	1303	39.7
Marital Status	Yes	1654	52.2
	No	1513	47.8
English Literacy	Yes	3036	97.4
	No	80	2.6
Health Insurance	Yes	3030	92.2
	No	255	7.8
Race/ethnicity			
	Asian	138	4.7
	Hispanic	427	14.5
	White	1868	63.3
	Black/African American	409	13.9
	AA/AN	118	3.6
	Other	111	3.8
Education			
	Less than high school	217	6.9
	Completed high school	616	19.4
	Post high school vocational training	228	7.2
	Some college	714	22.4
	College graduate	828	26.0
	Post graduate degree	578	18.2
Income			
	\$0 to \$9,999	214	7.2
	\$10,000 to \$14,999	180	5.5
	\$15,000 to \$19,999	165	5.0
	\$20,000 to \$34,999	423	12.9
	\$35,000 to \$49,999	386	11.8
	\$50,000 to \$74,999	530	16.1
	\$75,000 to \$99,999	369	11.2
	\$100,000 to \$199,999	521	15.9
	\$200,000 or more	174	5.3
Quality of care			
	Poor	24	0.9
	Fair	137	4.9
	Good	500	18.1
	Very Good	1080	39.0
	Excellent	1028	37.1

sample, as did Whites (65%). Household income of \$50,000–\$74,999 characterized the largest percentage of participants (17.9%); a slightly lower percentage (17.6%) reported income of \$100,000–\$199,999.

3.1. Sociodemographic variables and health-care factors

In linking health-care factors to all sociodemographic variables, we conducted ANOVA, ran *t*-tests for categorical sociodemographic variables, and calculated correlation coefficients for continuous sociodemographic variables. This lets us look for relationships among the seven sociodemographic variables and the health-care factors *trust of health-care information*, *quality of communication with health-care providers*, and *quality of healthcare*. We found the variable *race* to be associated to a statistically significant degree with the *trust* variable [$F(3, 2780) = 20.90, p < .001, \eta^2 = .02$]; with the *communication* variable [$F(3, 2406) = 8.27, p < .001, \eta^2 = .01$]; and with the *quality* variable [$F(3, 2399) = 8.61, p < .001, \eta^2 = .01$]. Despite the statistical significance seen with each instance of ANOVA, the η^2 effect sizes obtained indicate that no instance yielded more than a diminutive effect. For example, race accounted for 2% of the variance in trust and 1% in quality of communication and of health care alike.

We similarly conducted ANOVA to ask how marital status differently affected the three directly health care-related factors. We found the variable *marital status* to be associated to a statistically significant degree with the *trust* variable [$F(5, 3096) = 4.73, p < .001, \eta^2 = .01$] and with the *quality* variable [$F(3, 2395) = 8.61, p < .001, \eta^2 = .01$]. *Marital status* was not similarly associated with the *communication* variable [$F(5, 2683) = 1.84, p = .10, \eta^2 = .00$].

In addition, we performed *t*-tests to see how English proficiency might affect measures of the three health-care variables. Per our results, native English speakers—presumably proficient in the language—were significantly more likely than less-fluent non-native speakers to perceive the quality of care received to be high [$t(2,632) = 3.49, p < .001, d = .45$]. The sizes of the Cohen's *d* effect that our analyses yielded indicated moderate-high effect (45% of variance). This suggests that, indeed, participants proficient in English perceived the quality of care to be much higher than did non-native speakers among the participants. Concerning *communication* [$t(2,641) = 2.52, p = .01, d = .32$] and *trust* [$t(3,051) = -1.44, p = .02, d = .14$], we observed statistically significant differences between native and non-native speakers of English, although only small-moderate effect (32% and 14% variance, respectively).

The *t*-tests also allowed us to explore male/female differences in measures of the three health-care factors. We found one statistically significant gender effect, for *trust*. Our analysis indicated that men in our sample exhibited less trust in medical information they received than women did [$t(2,973) = 3.09, p = .002, d = .11$]. Gender-related findings for *communication* [$t(2,588) = .96, p = .34, d = .04$] and *quality* [$t(2,576) = 2.01, p = .05, d = .08$] constituted statistically not-significant results.

Finally, we also conducted correlation analyses outlining relationships among the continuous demographic variables *age* and *income* and all three health-care factors. According to our results, *age* was related to *trust* to a statistically significant degree ($r = -.05, p = .005$). It was also related, again to a statistically significant degree, to both *communication* ($r = .07, p < .001$) and *quality* ($r = .08, p < .001$). Similarly, our analyses showed the demographic variable *income* to be related, to a degree of statistical significance, to *communication* ($r = .08, p < .001$) and *quality* ($r = .13, p < .001$), but not to *trust* ($r = .02, p = .26$). Education was statistically related to *Trust* ($b = .081, p < .001$) and *quality* ($b = .075, p < .001$) but not to communication ($p > .05$).

3.2. Sociodemographic and health-care factors' roles in routine screening behavior

Results of our two-step multiple regression procedure appear in Table 2. In Step 1, sociodemographic variables exclusively were included in the model. In Step 2, the three health-care factors

Table 2. Hierarchical regression and health-care factors implicated in routine screening behaviors (n = 3,285)

Model		B	Std. Error	Beta	t	Sig.	
Step 1	(Constant)	4.249	.284		14.981	.000	
	Gender	-.195	.035	-.113	-5.620	.000	
	Age	.011	.001	.217	10.298	.000	
	American Indian/Alaskan Native	.088	.156	.044	.564	.573	
	Black	.014	.097	.007	.147	.883	
	Asian	-.245	.170	-.058	-1.441	.150	
	Hispanic	-.029	.086	-.012	-.336	.737	
	Another Race/Ethnicity	-.129	.087	-.138	-1.471	.141	
	English Literacy	-.004	.114	-.001	-.034	.973	
	Marital Status	.083	.038	.049	2.197	.028	
	Education	.007	.021	.008	.338	.735	
	Income	.024	.010	.064	2.298	.022	
	Insurance Status	.063	.039	.037	1.592	.112	
	Step 2	(Constant)	3.488	.304		11.455	.000
Gender		-.194	.034	-.113	-5.640	.000	
Age		.011	.001	.208	9.894	.000	
American Indian/Alaskan Native		.037	.154	.019	.241	.809	
Black		.030	.096	.014	.317	.751	
Asian		-.169	.169	-.040	-1.000	.318	
Hispanic		.006	.086	.003	.074	.941	
Other		-.098	.087	-.105	-1.126	.260	
English Literacy		-.026	.113	-.005	-.232	.817	
Marital Status		.081	.038	.048	2.166	.030	
Education		.000	.021	.000	-.007	.994	
Income		.018	.010	.047	1.703	.089	
Insurance		.059	.039	.034	1.504	.133	
Health care variables added in step 2							
Perceived Quality of Care		.061	.026	.066	2.332	.020	
Communication		.046	.035	.036	1.305	.192	
Trust		.105	.029	.077	3.620	.000	

were added to obtain the final model. In the Step-1 model, we obtained statistically significant results for links between routine screening behavior and *income* ($b = .024, p = .022$); *age* ($b = .011, p = .000$); *marital status* ($b = .083, p = .028$); and *gender* ($b = -.195, p = .000$). Reporting recent health screening appeared here to be associated with higher income, greater age, male gender, and being married.

The Step-2 model (see Table 3) showed health-care factors *trust* ($b = .105, p = .000$) and *quality* ($b = .061, p = .028$) to be associated significantly with routine screening behavior, while *communication* ($b = .046, p = .192$) was not associated significantly with it. Including the health-care factors in the model reduced the size of coefficients for gender, marital status, and income slightly. This indicates that the three health-care factors did explain, in part, relationships we observed between routine screening behavior and several sociodemographic variables. The addition to the model of the three health-care factors certainly increased the model's predictive power where

Table 3. Hierarchical model R-squared change (n = 3,285)

Model	R	R square	R square change	Sig. F-Change
Model 1: Demographics (Demog.)	0.246	0.060		
Model 2: Demog. & Healthcare Factors	0.281	0.080	0.019	0.000

screening behavior is concerned. At Step 2, explained variance was increased to 8%, from 6%; as well, adding our health-care factors raised the measure of F-value significantly.

4. Discussion

More and more, preventive care is becoming the focus of the American health-care system—and of the field of public health (Maxim et al., 2014; Saqib et al., 2015). Considering this evolution, the present study sought out associations between routine screening behavior and (a) select socio-demographic variables and (b) *trust, communication, and quality* reported by patients concerning their care providers. Its results empirically support the predictive power, where health screening is concerned, of patients' trust in medical professionals and perception of the care received. Such results join some similar ones in the literature, which notes that health screening is shaped by the demographic variables age, gender, race, income, marital status, English literacy, and education (Amuta, Mkuu, Jacobs, & Ejembi, 2017). Importantly, however, the present results found only age, gender, income, and marital status to generate statistically significant effects on routine screening behavior.

Three pertinent interpretations of these results deserve discussion. First, sociodemographic and health-care factors that per the literature are linked to health may *not* be linked specifically with taking preventive health measures. Distinct perspectives are involved in predicting health versus predicting preventive measures taken to preserve health. We controlled several sociodemographic factors and then found significant links between routine screening behavior and trust in medical information offered as well as satisfaction with care received. The implication is that positive professional–patient relationships—rapport—can be remarkably valuable to the improvement of health via preventive care. Additionally, our findings indicate that gender, income, age, and (to a lesser extent) marital status all shape participation in routine screening behavior. We were somewhat surprised, in truth, by the significant relationship between male gender and health screening, since according to most literature males appear less likely than females to seek health care (Manierre, 2015). Subsequent research might address hypothetical social mechanisms affecting health screening as it is pursued by individuals of each gender or might address types of screening behavior that are potentially gender-linked.

Second, we found non-native English speakers to report very low *trust, quality* and poor *communication* with health-care professionals. The United States admits more immigrants and refugees than any other nation (Pumariiega & Rothe, 2010). A decade ago, total immigrants in the US numbered an estimated 40 million, with a further 1.1 million entering annually (Pumariiega & Rothe, 2010). As might be expected, then, immigration poses a challenge to health-care providers and systems in, particularly, parts of the country most attractive to immigrants (Mcguire, Garcés-Palacio, & Scarinci, 2012). Evidence suggests that effective communication between immigrant patients and health-care professional fosters patient satisfaction along with adherence to medical advice and desirable overall outcomes (Mcguire et al., 2012). When patients cannot communicate clearly with professionals, behaviors related to health and health-care seeking are affected; this is especially so where the parties speak different languages (Mcguire et al., 2012). Limited English proficiency is a barrier to the best-quality care, and to receiving preventive care, and it ultimately contributes to health disparities (Jih, Vittinghoff, & Fernandez, 2015; Larsen,

2007). Among patients for whom answering medical questions, understanding medical information, and completing medical forms involves a difficult new language, clinical encounters can easily become negative and perceptions of racial discrimination may arise (Becerra, Androff, Messing, Castillo, & Cimino, 2015). Thus, lack of language proficiency may affect the professional–patient relationship, as well as professionals’ ability to adequately diagnose and treat (Becerra et al., 2015).

Health-care-related difficulties that ensue where immigration is vigorous include language barriers, of course, but also patients’ unfamiliarity with health-care services and systems and professionals’ lack of cultural competence (Mcguire et al., 2012). Beyond learning English, immigrants arriving in the US must assuredly learn to navigate its health-care system. To cultivate understanding and patients’ trust, it is equally important that health-care professionals study immigrant groups’ cultural beliefs; cultural understanding can contribute to positive experiences between professionals and patients (Becerra et al., 2015; Mcguire et al., 2012). Cultural understanding by health professionals is pertinent and required to capitalize on immigrant groups’ health-care-seeking behaviors and facilitate competent delivery of care to them (Alpern, Davey, & Song, 2016; Mcguire et al., 2012). To learn to navigate our health-care system is challenging, and more burdensome while English proficiency remains emergent. Again, the health professional–patient relationship may suffer while the patient is still acquiring language proficiency—and health literacy. Larsen defines *health literacy* as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (2007). Health literacy, then, becomes increasingly challenging as the health-care system grows in complexity, as it undeniably does. Patients must process and understand information comprising health care’s physiological, pharmaceutical, financial, and administrative angles; today all patients, including immigrants, are being assigned progressively larger shares of responsibility for self-management of health and health care (Larsen, 2007).

A third interesting interpretation involves the small variance we found to be explained by the combined sociodemographic and health-care factors. This variance implies that we need to seek further relevant correlates of routine screening behavior. Our health-care systems continue turning toward preventive strategies because such strategies crucially reduce costs (at least in theory). Grasping the social determinants of preventive screening behavior could prove useful for improving the health of the nation’s residents.

5. Limitations

There are some limitations to this paper that warrant mention. 1) The primary provider in a routine check-up is not necessarily responsible for all screening tests; for example, many specialists may manage the screening surveillance for patients that might include OBGYN’s (pap), Oncologists (breast cancer mammograms), and Gastro (CRC). Additionally, the screening intervals differ widely from annual screening to every 5 or 10 years depending on the screening done. Future researchers are encouraged to be disease-specific when collecting data on screening behavior. 2) The data used are cross-sectional thus a causal relationship cannot be inferred, we are limited to associations. In conclusion, routine screening behavior is a nuanced and multifaceted issue that deserves more investigation and discussion.

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