Racial and Ethnic Disparities in Satisfaction with Doctors and Health Providers in the United States

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Objective: To assess racial and ethnic disparities in satisfaction with doctors and health providers in the United States.

Design: Analyses were based on cross-sectional data from a healthcare satisfaction module added to the 2000 Behavior Risk Factor Surveillance System (BRFSS), completed by 3 US states.

Methods: Cross-tabulations and multiple logistic regression. Five models were estimated with dependent variables involving satisfaction with doctors and health providers in the last 12 months with respect to how carefully they listen to the patient, explain so the patient can understand, show respect for what the patient has to say, spend enough time with the patient, and overall performance. Independent variables considered included race/ethnicity, age, gender, marital status, education, annual household income, regular physician, and health status.

Results: Hispanics, compared with Whites, were significantly more likely to be dissatisfied with overall healthcare and how their doctors and health providers listen, explain, show respect, and spend enough time with them. This difference became insignificant after adjustment for the other independent variables in the models, with the exception of the model involving listening carefully, where Hispanics were more likely to be dissatisfied (OR=1.6, 95% CI=1.0–2.6), and Blacks were less likely to be dissatisfied (OR=0.3, 95% CI=0.1–0.9). Each of the independent variables, except gender and marital status, were significant in at least one of the models, and regular physician and health status variables were significant in all of the models.

Conclusions: With the exception of listening, race/ethnicity is not directly associated with the healthcare variables considered. (*Ethn Dis*. 2003;13:492–498)

Key Words: Age, Cross-Sectional Survey, Education, Ethnicity, Health Status, Income, Patient Satisfaction, Socioeconomic

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Introduction

Racial and ethnic disparities exist in healthcare satisfaction and understanding. Identifying why these disparities exist represents an important step toward eliminating inequality in health care. Studies in select geographic locations have identified differences in healthcare satisfaction among racial and ethnic groups. These studies have attributed some, if not all, to reasons such as mistrust, racism, and language barriers.[1–4] In addition, studies have shown age, income, educational attainment, health status, and care from a regular physician as factors associated with healthcare satisfaction.[5–10]

The Behavior Risk Factor Surveillance System (BRFSS), an annually conducted cross-sectional telephone survey in the United States, included a module on healthcare satisfaction in its 2000 survey.[11] The purpose of this study was to examine racial and ethnic disparities, based on the 2000 BRFSS data. Factors examined included participants' satisfaction with doctors and other health providers in the last 12 months and assessed the health provider's ability to: listen carefully; explain in a way they can understand; show respect; spend enough time with the patient. We explored whether racial/ethnic disparities in healthcare satisfaction persisted. Variables on healthcare satisfaction were adjusted for age, gender, marital status, education, annual household income, regular contact with a physician, and health status.

Methods

Behavior Risk Factor Surveillance System

The BRFSS is a collaborative project of the Centers for Disease Control and Prevention (CDC) and US states and territories. The project was designed to assess health behaviors and risk factors for disease among the US adult population aged 18 years and older living in households.[11] The BRFSS is a cross-sectional surveillance survey; 52 areas participate in the survey. The questionnaire contains core sections that include health status and demographics (eg, age, gender, marital status, education, annual household income, and race/ethnicity). It also may include optional modules and questions added by a specific US state.

Interview Process

State health employees or independent contractors conducted interviews using computer-assisted telephone techniques. Interviewers received a BRFSS questionnaire and procedure training prior to being certified. Monitoring of interviews was conducted systematically throughout the BRFSS areas and involved listening to the interviewer, listening to the interviewer and respondent, and/or verification callbacks. English and Spanish versions of the BRFSS questionnaire were utilized. State health departments were encouraged to hire interviewers fluent in languages prevalent in their state. If there were no interviewers who spoke the respondent's language, the subject was excluded from the study.[12]

Sampling

The BRFSS participating areas used probability sampling of all households with telephones in their area. A disproportionate stratified sampling design was used in the 50 states. The Mitofsky-Waksberg sampling design was used in Minnesota, and simple random sampling was used in Puerto Rico. A thorough description of these sampling procedures is given elsewhere.[11]

Questionnaire Development

Prior to the beginning of each year, the CDC provided all participating areas in the BRFSS with fixed core questions along with optional modules. Questions included in the CDC-supported modules first undergo evaluation and editing through pilot testing. State-added questions undergo evaluation and editing at the state level.

Data

Analyses were based on health status, sociodemographics, and the module on healthcare satisfaction. Colorado, Indiana, and Kansas adopted the 2000 healthcare satisfaction module in 2000. Cooperation rates (the number of completed questionnaires divided by the number of identified households contacted that contain a resident 18 years or older) for these states were 60.8%, 44.6%, and 50.2%, respectively.[13] In this module, individuals were asked whether they: had a regular physician or healthcare provider; visited an emergency room to seek care in the last 12 months; and visited a doctor's office or clinic to obtain care in the last 12 months. In addition, they were asked how often doctors and other health providers in the last 12 months listened carefully to them, explained things in a way they could understand, showed respect for what they had to say, and spent enough time with them. They were also asked to provide an overall rating of their healthcare satisfaction from all doctors and health providers in the last 12 months. Race/ethnicity were categorized as non-Hispanic White (hereafter referred to as White), non-Hispanic Black (hereafter referred to as Black), Hispanic, Asian/Pacific Islander, American Indian/Alaska Native, and Other. The last three groups were consolidated in the "Other" category because of their small numbers.

Table 1. Bivariate analysis of associations between selected healthcare variables and race/ethnicity*†

In past 12 months:	White *N*=6,320	Black *N*=223	Hispanic *N*=550	Other *N*=168	Chi-square *P* value
Visited emergency room					
Yes	18.7%	24.1%	19.2%	17.9%	
No	79.7%	71.5%	79.9%	81.6%	
Unknown	1.6%	4.4%	0.9%	0.5%	.0024
Visited doctor's office/clinic					
Yes	75.2%	71.3%	61.1%	72.6%	
No	22.6%	24.4%	37.5%	23.9%	
Unknown	2.2%	4.2%	1.4%	3.5%	.0009

* Percentages are weighted.

† Weighted percentages were not computed for unknown race/ethnicity because only 34 individuals were in this category.

Seven thousand two-hundred and ninety-five individuals, aged 18 years and older, completed the healthcare module of the BRFSS. Of these individuals, 1,402 (19.2%) indicated they visited an emergency room to obtain care in the last 12 months, and 5,410 (74.2%) reported they visited a doctor's office or clinic to receive care in the last 12 months. There were 286 (3.9%) who reported they did not visit an emergency room or a doctor's office or clinic; 45 (0.6%) did not know or were not sure, and 152 (2.1%) refused to answer this question. Blacks, compared with the other racial and ethnic groups, appeared more likely to have visited an emergency room to receive care in the last 12 months, but a comparatively high level of unknown responses for this group may bias this result (Table 1). Hispanics were the least likely group to have visited a doctor's office or clinic to receive care in the last 12 months. Unless an individual specifically said that they had not visited a doctor's office or clinic to obtain care in the last 12 months, they were asked further questions about healthcare satisfaction. Further analyses in this paper were based on 5,607 respondents in this group.

Statistical Methods

Correlates of healthcare satisfaction were assessed using contingency tables and multiple logistic regression.[14] Bivariate analyses of associations between selected variables and healthcare satisfaction were evaluated for statistical significance using the chi-square test for independence.[15] Tests were conducted based on *t* statistics with robust standard error, appropriate with BRFSS data, to verify that beta coefficients in the logistic regression models equal zero.[16] Models were derived using stepwise logistic regression, with variables dropped or added based on the 0.2 level of significance. In addition to race/ethnicity, variables considered in the models were age, gender, marital status, education, annual household income, regular contact with a physician, and health status. The dependent variables involving satisfaction with doctors and other health providers in the last 12 months were dichotomized as "low" (never/sometimes) and "high" (usually/always). Two-sided *t* tests of significance were used, based on the .05 level. Statistical analyses were conducted using Statistical Analysis System (SAS) callable SUDDAN, version 8.2.[17]

Table 2. Bivariate analyses of associations between demographic, regular physician, and health status variables, and race/ethnicity*†

	White *N*=4,924	Black *N*=165	Hispanic *N*=365	Other *N*=124	Chi-square *P* value
Age					
18–34	30.2%	41.1%	40.6%	40.5%	
35–54	39.1%	31.0%	42.4%	42.8%	
55+	30.7%	27.9%	17.0%	16.7%	<.0001
Gender					
Women	55.0%	53.8%	65.2%	47.4%	
Men	45.0%	46.2%	34.8%	52.6%	.0278
Marital status					
Married (and cohabitating)	67.3%	58.3%	71.2%	69.7%	
Not married	32.4%	40.9%	28.8%	30.0%	
Unknown	0.3%	0.8%	0.1%	0.3%	.1945
Education					
Less than high school grad	5.4%	5.8%	30.9%	9.7%	
High school graduate	26.8%	26.0%	28.3%	16.9%	
Some college or tech	29.9%	37.6%	21.4%	20.3%	
College graduate	37.7%	30.2%	19.4%	53.1%	
Unknown	0.2%	0.4%	0.0%	0.0%	<.0001
Annual household income					
Less than $15,000	5.5%	10.1%	17.9%	6.6%	
$15,000–$25,000	13.8%	20.1%	20.6%	11.8%	
$25,000–$50,000	29.6%	35.6%	26.8%	29.3%	
$50,000–$75,000	18.3%	12.8%	14.4%	28.0%	
$75,000+	19.2%	8.3%	9.0%	12.6%	
Unknown	13.5%	13.1%	11.4%	11.7%	<.0001
Regular physician					
Yes, only one	78.6%	73.9%	64.9%	80.6%	
Yes, more than one	6.2%	6.5%	6.0%	0.7%	
No	13.0%	14.8%	26.8%	18.0%	
Unknown	2.2%	4.8%	2.3%	0.7%	<.0001
Health status					
Excellent	21.5%	18.6%	15.9%	22.6%	
Very good	37.7%	28.2%	23.2%	27.7%	
Good	27.8%	31.0%	32.4%	34.1%	
Fair	9.5%	15.4%	17.3%	12.5%	
Poor	3.3%	6.8%	11.1%	3.1%	
Unknown	0.2%	0.0%	0.1%	0.0%	<.0001

* Percentages are weighted.
† There were 29 individuals with unknown race/ethnicity.

RESULTS

Bivariate analyses of associations between demographic data, regular contact with a physician, and health status variables and race/ethnicity are shown in Table 2. The frequency distribution of each variable significantly differed among categories of race/ethnicity, with the exception of marital status. As the frequency distribution indicates, Whites were older while Hispanics were more likely to be women, have lower education, and less likely to have a regular physician. Blacks and Hispanics had lower annual household income. Minorities reported poorer health status.

Unadjusted odds ratios derived from logistic regression analyses are reported in Table 3. Hispanics, compared with other racial/ethnic groups, were consistently more likely to be dissatisfied across each of the healthcare variables considered. The exception to this trend was found in the category of spending enough time with the patient where there was no significant difference among racial/ethnic groups. Blacks were less likely to be dissatisfied with doctors and health providers in the category of listening carefully. Adjusted odds ratios derived from multiple logistic regression analyses are reported in Table 4. The best fitting models were determined using stepwise logistic regression. The race/ethnicity variable was retained in only one model involving listening carefully to the patient. For this model, compared with Whites, Hispanics were more likely dissatisfied and Blacks were less likely dissatisfied with physicians and other health providers listening carefully to what they had to say.

With respect to age, education, annual household income, regular physician, and health status, each variable was retained in at least one of the models. Regular physician and health status variables remained in all of the models. Gender and marital status were also considered but subsequently dropped from the models because of statistical insignificance. In the model involving listening carefully, interaction terms between race/ethnicity and the other variables were also estimated but then dropped because of insignificance.

Individuals aged 55 and older (vs those aged 18–34) were significantly less likely to be dissatisfied with their doctors and health providers, in the categories of patient respect, time, and overall satisfaction. Individuals with a high school education, compared with those with less than a high school education, were significantly less likely to be dissatisfied with their doctor's and health provider's style of listening and showing respect for what they have to say. Individuals with an annual household income between $50,000 and $75,000 (vs those with less than $15,000) were significantly less likely to be dissatisfied with their doctors and health providers in the category of explaining things in a way the patient could understand.

Table 3. Unadjusted odds and 95% confidence intervals of Low vs High satisfaction with doctors and other health providers in the last 12 months listening carefully, explaining so you can understand, showing respect for what you have to say, spending enough time with you, and overall*

	Listens	Explains	Respect	Time	Overall
Race/ethnicity					
White	1.0	1.0	1.0	1.0	1.0
Black	**0.4 0.2–1.0**	1.2 0.5–3.1	0.7 0.3–1.4	0.9 0.4–2.2	0.7 0.4–1.3
Hispanic	**2.3 1.5–3.7**	**1.9 1.2–3.1**	**2.3 1.5–3.3**	**1.4 1.0–2.0**	**1.7 1.2–2.4**
Other	1.2 0.6–2.5	1.2 0.4–3.4	1.7 0.8–3.6	1.9 1.1–3.6	1.2 0.6–2.5

Note: Bold typed odds ratios and confidence intervals are significant at the .05 level.

* The overall satisfaction rating is based on the question: ''How would you rate all your health care in the last 12 months from all doctors and other health providers?'' where 1 is the worst health care possible and 5 is the best health care possible. Scores of 1, 2, and 3 were categorized as ''Low'' and scores of 4 or 5 were categorized as ''High.''

Those without a regular physician were significantly more likely to be dissatisfied with their doctors and health providers with respect to each of the dependent variables. This was likewise true for those with poorer health status.

DISCUSSION

This study examined racial and ethnic disparities pertaining to satisfaction with doctors and health providers. The categories of listening carefully, explain-

Table 4. Adjusted odds and 95% confidence intervals of Low vs High satisfaction with doctors and other health providers in the last 12 months listening carefully, explaining so you can understand, showing respect for what you have to say, spending enough time with you, and overall*†

	Listening	Explaining	Respect	Time	Overall
Race/ethnicity					
White	1.0	NS	NS	NS	NS
Black	**0.3 0.1–0.9**				
Hispanic	**1.6 1.0–2.6**				
Other	1.1 0.5–2.5				
Age					
18–34	NS	NS	1.0	1.0	1.0
35–54			0.9 0.7–1.2	0.9 0.7–1.1	0.8 0.7–1.1
55+			**0.4 0.3–0.6**	**0.4 0.3–0.6**	**0.4 0.3–0.6**
Education					
Less than high school grad	1.0	NS	1.0	NS	NS
High school graduate	**0.6 0.3–1.0**		**0.6 0.4–0.9**		
Some college or tech	0.6 0.4–1.2		**0.5 0.3–0.9**		
College graduate	0.6 0.3–1.1		**0.5 0.3–0.8**		
Annual household income					
Less than $15,000	NS	1.0	NS	NS	NS
$15,000–$25,000		0.7 0.4–1.4			
$25,000–$50,000		0.7 0.4–1.3			
$50,000–$75,000		**0.4 0.2–0.9**			
$75,000+		0.6 0.3–1.2			
Regular physician					
Yes, only one	1.0	1.0	1.0	1.0	1.0
Yes, more than one	1.5 0.9–2.6	1.2 0.6–2.4	1.1 0.6–1.9	**1.5 1.0–2.3**	**1.3 1.1–2.4**
No	**1.4 1.0–2.0**	**1.6 1.1–2.3**	**2.5 1.8–3.4**	**2.1 1.6–2.8**	**1.8 1.4–2.5**
Health status					
Excellent	1.0	1.0	1.0	1.0	1.0
Very good	0.8 0.6–1.2	0.9 0.5–1.4	**1.4 1.0–2.1**	1.2 0.9–1.6	**1.3 1.0–1.8**
Good	**1.5 1.0–2.2**	1.4 0.9–2.3	**1.9 1.2–2.8**	**1.5 1.1–2.0**	**1.9 1.4–2.7**
Fair	**1.8 1.0–3.0**	**2.0 1.1–3.8**	**2.6 1.5–4.4**	**2.5 1.7–3.8**	**3.1 2.0–4.7**
Poor	**2.5 1.2–5.0**	**2.5 1.2–5.2**	**4.2 2.3–7.7**	**2.6 1.4–4.6**	**4.2 2.4–7.3**

Note: Bold typed odds ratios and confidence intervals are significant at the .05 level.

* Odds ratios for each model were simultaneously computed using multiple logistic regression for each of the variables listed in the left hand column of the table. Variables not significant (NS) at the 0.20 level are not included in the models.

† The overall satisfaction rating is based on the question: ''How would you rate all your health care in the last 12 months from all doctors and other health providers?'' where 1 is the worst health care possible and 5 is the best health care possible. Scores of 1, 2, and 3 were categorized as ''Low'' and scores of 4 or 5 were categorized as ''High.''

If disparities exist in satisfaction with doctors and health providers, this could contribute to inequality in utilization of health care.

ing in a way the patient can understand, showing respect for what the patient had to say, spending enough time with the patient and overall health satisfaction were variables used to examine racial/ethnic disparities. The study also assessed whether racial/ethnic disparities in satisfaction persisted after adjustment for age, gender, marital status, education, annual household income, having a regular physician, and health status. These variables were directly associated with healthcare satisfaction. If disparities exist in satisfaction with doctors and health providers, this could contribute to inequality in utilization of health care. Language, cultural, and perceived discriminatory barriers may influence satisfaction with doctors and health providers with respect to the types of health care considered in this paper. Sun et al found that among emergency room patients, lower overall ratings of care were associated with reluctance to return for care in the future.[10] Therefore, identifying disparities in satisfaction with doctors and health providers among racial/ethnic groups is an important step toward understanding barriers to acquiring health care.

After adjustment for selected variables, satisfaction with doctors and health providers no longer varied according to racial/ethnic group, with the exception of the model involving listening carefully to what the patient has to say. This may involve language barriers or other cultural factors, as suggested in a previous study.[3] Each of the variables retained in the models were associated with race/ethnicity, as indicated in Table 2. Thus, despite race/ethnicity not being directly associated with any of the healthcare variables, with the exception of listening carefully, it was related to each of the variables retained in these models. For example, Hispanics reflected a larger proportion of people who are less educated, are less likely to have a regular physician, have lower household income, and have poorer health status. These conditions, in turn, tended to be associated with lower satisfaction with doctors and health providers with respect to listening carefully, explaining in a way the patient can understand, showing respect for what the patient has to say, spending enough time with the patient, and overall satisfaction.

Not having a regular physician and having poorer health status were consistently associated with low healthcare satisfaction in the multiple logistic regression models. However, variables like education and income, which were associated with race/ethnicity, may influence having a regular physician and health status and indirectly impact healthcare satisfaction. Previous studies have likewise shown that patients tend to have a higher overall satisfaction with health care when they receive it from a regular physician.[2,5,18,19] Patients in 15 New York City hospitals, who did not have a regular physician, were more likely to report problems with the care they received.[2] Weiss et al reported a regular source of care, confidence in the medical system, and a positive outlook on life as more important predictors of healthcare satisfaction than age, sex, race, education, or income.[19] However, having a regular physician might indicate satisfaction with a given doctor and the resulting care. Conversely, not having a regular physician may result from being dissatisfied with a given doctor and the care provided. Ultimate satisfaction with a given doctor and care is likely influenced by one's health status.

An association between poor health status and lower healthcare satisfaction is well documented.[9,20–22] Our results are consistent with this association for the specific dimensions of healthcare satisfaction evaluated. In a study by Borders et al of a population in rural Texas, poor health status had a strong negative association with healthcare satisfaction.[21] Hall et al also found that poor health was directly related to lower healthcare satisfaction.[22] Their study included observations of physician/patient communication and found that physicians had more social communication with healthier patients. Thus, the association between health status and healthcare satisfaction could be partly explained by physician communication. Another reason for this association may be that a person in poorer health might blame their health status on the healthcare system. Further, individuals in poorer health may have greater expectations regarding the outcome of their care than those in good health. Consequently, they are less satisfied when their expectations are not met.

Previous studies have found that older patients tend to report higher satisfaction with overall care than younger patients.[2,23,24] Further, a study based on national data from the United Kingdom reported that older patients were more likely to report higher satisfaction than younger patients in overall satisfaction, as well as in satisfaction with several factors.[25] These factors included continuity of care by the same provider, communication (listening and explaining), level of trust, interpersonal (spending time, showing patience and caring), as well as several other factors. This coincides with our data, that older patients (55+), after adjusting for other variables, were more likely to be satisfied with their physician's respect, time spent, and overall ratings. The association between age and satisfaction may also be related to a greater number of unmet expectations by younger patients.

Higher education was associated with a patient being less likely to be dissatisfied with doctors and health providers quality of listening carefully or show-

ing respect. Higher household income was also associated with being less likely to be dissatisfied with doctors and health providers in the category of explaining in a way they could understand. The fact that education and income were not associated with overall healthcare satisfaction in the model may indicate that the association between education or income with overall healthcare satisfaction is mediated, at least in part, by health status. Studies have shown that lower education is often associated with poorer health status.[7,26] A study by Fiscella et al conducted among 500 managed care patients in western New York found a strong association between education level and general physical and mental health.[7] Sutcliffe et al reported that among the 195 lupus patients seen at 2 medical centers in the United Kingdom, there was an association between lower education level and more severe illness.[26]

Other studies have shown that perceived education level and socioeconomic status may involve social factors that influence the doctor-patient relationship.[6,8] Based on 1995 data from the Detroit metropolitan area, Malat reported that satisfaction with time spent is due in part to patients' socioeconomic class.[6] Fiscella et al found that education has an effect on how physicians treat patients. The amount of time spent by the doctor in counseling and listening to patients varied according to the perceived education level of the patient.[8] Yet our results did not find a direct relation between education level and satisfaction with doctors and health providers taking time to explain things so the patient could understand.

Possible limitations of BRFSS data include sampling error (ie, random variation that may occur because only a subset of the entire population was involved), non-sampling error (ie, incorrect interpretation of questions by respondents, variations in interviewer techniques, non-response, coding errors, etc), and the fact that telephone surveys exclude certain population segments from the sampling frame (ie, households without telephones). Large sample sizes adopted by the BRFSS are intended to minimize sampling error. In addition, rigorous steps such as interviewer monitoring, verification of callbacks, assessing quality assurance indicators, and data editing are taken to attain quality assurance.[27] The percentage of households estimated to be without telephone service nationally differed by race/ethnicity: 2.4% for Whites, 6.7% for Blacks, 6.2% for Hispanics, 11.6% for American Indians and Alaska natives, 1.5% for Asians, 3.6% for Pacific Islanders, and 6.6% for other racial groups.[28] To the extent that telephone service is related to socioeconomic status variables, the final survey results may not fully represent the racial/ethnic populations being considered. In addition, the fact that only 3 states adopted the module on healthcare satisfaction may limit the representation of the results to the entire US population. For this reason, generalization of the study results to the entire US population should be done with caution. Cooperation rates for these states may further limit representation to the overall populations within these states. Yet the cooperation rates were consistent with those of other areas in BRFSS.

Although surveys are conducted in languages other than English, the data does not report the language spoken by the respondent. Consequently, a possible negative effect on satisfaction by language barriers is not addressed. Finally, the cross-sectional nature of the survey itself, where measurements are taken at a point-in-time, limits our ability to identify the temporal sequence of events. These potential limitations should be considered when interpreting and generalizing the results.

CONCLUSION

Prior to adjustment by age, education, annual household income, regular physician, and health status, Hispanics, compared with Whites, were consistently more likely to be dissatisfied with how their doctors and health providers listen, explain so the patient can understand, show respect, spend enough time with them, and overall health care. After adjustment in the multiple logistic regression models, race/ethnicity was no longer a significant factor, with the exception of the model involving listening, where Hispanics were more likely to be dissatisfied and Blacks were less likely to be dissatisfied with how carefully doctors and health providers listen. Age, education, annual household income, regular physician, and health status, were statistically significant in at least one of the models, with regular physician and health status variables significant in all of the models. Race/ethnicity was associated with each of these variables. Language barriers may explain, at least in part, the direct significance of race/ethnicity in the model involving listening carefully. On the other hand, race/ethnicity may indirectly be associated with the healthcare satisfaction measures in this study through its association with each of the independent variables retained in the models.

. . . Hispanics were more likely to be dissatisfied and Blacks were less likely to be dissatisfied with how carefully doctors and health providers listen.

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AUTHOR CONTRIBUTIONS

Design and concept of study: Merrill, Allen
Acquisition of data: Merrill
Data analysis and interpretation: Merrill
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