Appendix A: Referendum language and history of previous referendums in three cities

Within Wichita, Kansas, San Antonio, Texas, and Portland, Oregon fluoridation has been placed upon the ballot multiple times beginning in the 1950s and 1960s. Below descriptive information on the most recent elections is provided including a summary Table (Appendix Table 1) and the exact ballot text from each election.

WICHITA, KANSAS

Voters in Wichita, Kansas have been steadfast in their opposition to community water system fluoridation, with ballots cast in elections held in 1964, 1978, and 2012 resulting in the majority of citizens voting against water fluoridation.

November 6, 2012 General Election

The topic of community water fluoridation appeared on the November 6, 2012 General Election Ballot as a proposition to adopt Section 17.12.340 of the Code of the City of Wichita that would establish water fluoridation. The language of the proposed code included additional language that described benefits of water fluoridation and established responsibility for implementation (State of Kansas, Sedgwick County, November 16, 2012, Certificate of Canvass):

> SHALL SECTION 17.12.340 OF THE CODE OF THE CITY OF WICHITA BE ADOPTED WHICH PROVIDES:
> (1) The City of Wichita's Director of Public Works & Utilities is authorized and directed to fluoridate the City of Wichita's public drinking water supply to the optimal levels beneficial to reduce tooth decay and promote good oral health as recommended by the Kansas Department of Health and Environment and is thereafter responsible for the fluoridation of that public drinking water supply.
> (2) Upon the direction of the Director of Public Works & Utilities, the Wichita Water Department is authorized and directed to install, operate, and maintain the equipment necessary to introduce fluoride compound sufficient to raise the fluoride concentration in the public drinking water supply to the optimal levels as set forth in the previous paragraph.

Unlike the elections of 1964 and 1978, a "YES" vote corresponded to the voter's support of a proposition to establish water fluoridation. The result of the 2012 election was 52,293 (40%) voting "YES" in favor of adopting the code that would establish water fluoridation and 76,906 (60%) voting "NO" against adoption of the code. There were 274,369 registered voters, with 129,199 casting a vote on the water fluoridation proposition.

SAN ANTONIO, TEXAS

While San Antonio citizens rejected water fluoridation in special elections held in 1966 and 1985, the ordinance to add fluoridation to the community water supply finally passed in 2000.

November 8, 2000 Joint General and Special Election

Water fluoridation referenda was placed on the ballot on November 8, 2000. Instead of responding to citizens petitioning for a referendum election after passing a fluoridation ordinance; the City Council decided to make the adoption of the fluoridation Ordinance (No. 92255) contingent upon approval by qualified voters (State of Texas, Bexar County, August 3, 2000, Ordinance 92255):

ORDINANCE 92255

SECTION 1. All community water systems as defined by the Federal Safe Drinking Water Act, P.L. 93-523, enacted by the United States Congress in 1974, which are direct suppliers of water through piping systems serving properties within the City of San Antonio are hereby authorized and directed to fluoridate all water supplies within their distribution systems to reach a total fluoride concentration of parts per million as recommended by the Texas Department of Health.

SECTION 2. It is hereby directed that this ordinance will become effective only by and upon the approval of the voters of the City of San Antonio at an election to be held in the City of San Antonio on Tuesday, the seventh (7th) day of November, 2000.

SECTION 3. If any provision of this Ordinance or the application thereof to any circumstance shall be held to be invalid, the remainder of this Ordinance and the application thereof to other circumstances shall nevertheless be valid, and the City Council hereby declares that this Ordinance would have been enacted without such invalid provision.

The results of this election was for the ordinance and fluoridation of the city's water, with 154,173 (53%) voting "FOR" the ordinance and 138,638 (47%) voting "AGAINST" the ordinance. Of the 772,468 registered voters, 292,811 cast a vote for the fluoridation referenda.

PORTLAND, OREGON

Voters in Portland, OR have gone to the polls to vote on water fluoridation on numerous occasions. In 1956 and 1962, citizens voted against fluoridation. In 1978, fluoridation was approved; however, this decision was reversed in 1980. In 2013, voters in Portland again voted against a Measure to add fluoride to the city water supply.

May 21, 2013 Special Election

In the most recent election, fluoridation of Portland's water was included as part of the May 21, 2013 Special Election. Measure 26-151 appeared on the ballot as follows (City Club of Portland, April 11, 2013, A City Club Report on Ballot Measure 26-151):

> MEASURE 26-151
> FLUORIDATION OF PORTLAND DRINKING WATER SUPPLY
> "Shall Portland fluoridate its drinking water supply?
>
> Portland supplies drinking water to city residents and businesses and to several other municipalities and water districts outside Portland. Portland currently does not add fluoride to its drinking water supply.
>
> This measure requires Portland to fluoridate its drinking water supply. The measure requires fluoridation at the levels recommended by the Centers for Disease Control and Prevention or the Oregon Health Authority intended to reduce tooth decay and promote oral health. The measure is a referral of an Ordinance adopted by the Council. Although the Ordinance requires fluoridation of Portland's drinking water supply by March 1, 2014, the actual date of implementation of fluoride will depend on the effective date of this measure. The fluoride must meet standards of the American Water Works Association. The measure requires record-keeping related to quantities of water treated and the type and amounts of fluoride used. The measure also requires the City to conduct tests for fluoride in treated and untreated water in accordance with state and federal recommendations.
>
> The measure funds fluoridation through water user fees."

The results of this election was against the Measure with 99,573 (61%) voting "NO" for adding fluoride to the city water supply and 64,728 (39%) voting "YES." Of the 435,627 registered voters, 164,301 cast a vote on this Measure.

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Appendix B: MML, GPCM and IRT methods

Health literacy as defined by American Medical Association as the "constellation of skills, including the ability to perform basic reading and numerical tasks, required to function in the health care environment."[2,3] Given that health literacy cannot be directly measured, as can educational attainment, it is not directly observable and therefore latent. Item Response Theory (IRT) methods are used in order to estimate the ability of an individual given their responses to a set of items. The National Assessment of Adult Literacy (NAAL) conducted a representatively sampled over 18,000 U.S. adults over the age of 16 and included 28 items relating to health literacy in its 2003 survey. The NAAL purposefully included an oversample of imprisoned Americans, which left 18,054 Americans non-imprisoned, with 17,977 of these with non-missing information and used in our analysis.[4] Initial analyses of health literacy from the 2003 survey used a program called AM Beta, developed by the American Institutes of Research.[5] However, replicating the results and using the software were found to be unclear, and models estimated using the program were not found to converge. Work incorporating health literacy scores into their research did not provide instructions on how to overcome this problem,[6,7] and further appeared to use variables from the Census and American Community Survey that could not be implemented with data from 2000 – 2002. Therefore, we reran the analysis from the ground up using the open use statistical program R.

We employed Marginal Maximum Likelihood (MML) IRT methods in order to determine health literacy scores by demographic group as opposed to the responses of an individual. The NAAL health literacy items require MML methods in order for unbiased estimates given that even though there were 28 health literacy questions, each respondent only answered five.[5] MML accounts for the fewer degrees of freedom by determining point estimates for subgroups. The method determines the most likely theta (ability) of an individual given their response to a test item. A test item's impact is in turn determined with a three parameter generalized partial credit model (GPCM). The NAAL survey grants partial credit to some questions, which necessitates the partial credit model. The three parameter model in turn estimates the difficulty, discrimination, and guessing parameters. While a true MML model would theoretically find the most likely estimate of theta over an integral, this is computationally impossible, so I sum the results from -8 to 8 over 51 points, akin to past research.[5] We employ the Test Analysis Modules (TAM) package in order to estimate the most likely ability level while testing for the optimal three different parameters iteratively. Although we are uncertain as to how long it would take for the original AM software to converge on an ideal estimate, with R using a 16 GB memory and a solid state drive, several minutes were required. We determine the health literacy of each individual by extracting the expected a posteriori estimators (EAP) by person after having run the model, with the most likely EAP values chosen based on the MML estimates for the difficulty, discrimination, and guessing parameters. We then center and standardize the person EAP estimates onto the health literacy scale, where the mean is 250, and each standard deviation scored as 50 points. We found EAP person estimates averaged at approximately -0.4, a standard deviation of 1, and a range from -4.55 to 2.39. Appendix Figure 1 presents the distribution of scores among the NAAL respondents.

The resulting IRT item estimates suggest sufficient variance in calculating the health literacy estimates per person. Appendix Figure 2 presents the health literacy required for a person to have a 67% probability of answering an item correctly. If there were any clear outliers, it would be problematic as outliers would exert undue influence in calculating health literacy. As Appendix Figure 2 demonstrates, all of the questions are centered around 250, with a range from 166.7 to 331.2, and a mean of 243.8. These results do differ from those found by the NAAL Technical Report[5], though this arises from our use of a three parameter model. Given that guessing is accounted for, outliers arising from partial credit exert less influence in our model. For example, item CC007 in the NAAL report is scored as a -58, whereas in our model one needs a health literacy of 185 to have a 67% probability of answering it correctly. No serious differences arise as to cause doubt as to the three parameter model.

We then employed Multilevel Regression with Post-stratification (MRP) using U.S. Census data from 2000 for San Antonio, Texas, and 2012-2013 American Community Survey data for Wichita, Kansas and Portland, Oregon. Using MRP, we apply the coefficients and respective standard errors to the relevant demographic variables by Census Block Group (CBG) in order to estimate CBG level health literacy. We employ MRP given its robustness for predicting micro level characteristics. Past research demonstrates MRP methods outperform state level public opinion data using national level surveys with as few as 1,400 respondents[rr1], and also prevents temporal instability in estimating over time.[rr2] The later feature of MRP methods exists as it would require a statistically significant change in the direction and size of coefficients to undermine the validity of MRP methods, an situation that would only occur in the event of a large exogenous shock to the field of study, which is not present in the field of health literacy. In applying MRP methods, we regressed independent variables present in the NAAL survey on Census/American Community Survey categories consistent from 2000 – 2013. This is an important nuance, as the categories used in previous research[6] did not account for differences in categories such as age and education that differed on the U.S. Census. As a result, age and educational groups, among others, could not be applied to the U.S. Census. We had to collapse race/ethnicity into Whites, Blacks, Hispanic, and others, as these were the only options available on the NAAL survey. A mismatch in age categories led us to collapse age into three groups, under 25, 25 – 64, and 65 or more. We did not add in education by age, but rather went with highest educational attainment in general, where the categories were some high school/still in high school, high school/GED, some college/vocational school/associate's degree, and a Bachelor's degree or higher. It was unclear how researchers calculated several categories of poverty thresholds, given the lack of sufficient and accurate information reported on the survey. Therefore, we had to assume respondents were in a household of four and make use of the rough income categories that respondents could report. Those reporting having made less than $20,000 were reported as being at or below the poverty line, incomes $20,000 - $40,000 as 100 – 199% above the poverty line, and all incomes above $40,000 as 200% above the poverty line. We measured language spoken as English or non-English, and marriage as single, married, or separated/widowed/divorced. Unlike previous work, we do add in controls for regions, which consist of the North-East, Midwest, West, and South. While state level controls would be better, these were the best option given the questions asked on the NAAL survey.

Appendix Table 2 presents the survey regression results in determining the drivers of health literacy. Our survey regression included weights for clustering at the ID and strata levels, along with sampling weights as provided by the NAAL health literacy data set. Our results are nearly identical with Martin et al (2009)[6] though there are some differences given the different categories. That said, the directions of the coefficients and levels of significance are largely the same.

Upon running the survey model, we extracted the coefficients and standard errors and weighted them by the proportion of the population that matched their respective variables. For example, if a precinct was 70 percent Black, then the coefficient of -19.32 would be weighted by .7. We then simulated estimates for precincts 1000 times per precinct, and the used the mean health literacy per precinct as the data within our model. Appendix Figure 3 presents the distribution of predicted mean health literacy by precinct. The range from 196.8 to 353.8 and mean of 271 is sensible, given that it is not expected for aggregations of people to have mean health literacies drastically above or below average health literacy of 250.

Appendix C: Census Demographic Variables

Demographic variables at the precinct level were race/ethnicity, age, educational attainment, and income-to-poverty ratio. All were measured as a percentage of the population. The racial/ethnic groups were White (referent), African American, Asian, Hispanic, and other. The age groups were <18, 18 to 24, 25 to 34, 35 to 54, 55 to 64 and 65 and older (referent). Categories of educational attainment were less than a high school degree (referent), high school degree or equivalent, some college, a Bachelor's, Master's or Philosophy Doctorate, and a professional degree. As detailed in Appendix C, the US Census bureau restricts the latter to people with a University degree in divinity, law, medicine, dentistry and six other professions.[20] Finally, income-to-poverty ratio was collapsed into three groups, representing below the poverty threshold (referent), 100-199 percent above the poverty threshold, and 200 percent or above the poverty threshold.

Following the 2010 Census, professional degrees were defined as post-baccalaureate awards. For the time frame of our study, professional degrees are defined by the National Center for Education Statistics as "First Professional Degrees" according to the Integrated Post-Secondary Education Data System.[1] The requirements to achieve a professional degree are: "(1) completion of the academic requirements to begin practice in the profession; (2) at least 2 years of college work prior to entering the program; and (3) a total of at least 6 academic years of college work to complete the degree program, including prior required college work plus the length of the professional program itself."[1] The following are the 10 degrees counted as professional as opposed to an M.A. or Ph.D.

- Chiropractic (D.C. or D.C.M.)
- Dentistry (D.D.S. or D.M.D.)
- Law (L.L.B., J.D.)
- Medicine (M.D.)
- Optometry (O.D.)
- Osteopathic Medicine (D.O.)
- Pharmacy (Pharm.D.)
- Podiatry (D.P.M., D.P., or Pod.D.)
- Theology (M.Div., M.H.L., B.D., or Ordination)
- Veterinary Medicine (D.V.M.)

Appendix D: Turnout

Appendix Table 3 models 1 and 2 display the linear robust regression results for the percentage of registered voters participating in the CWF referendum. Model 1 includes health literacy as the sole explanatory variable of interest. Health literacy reached statistical significance ($p<0.01$) with a positive effect of approximately 0.3. Thus, for a one unit increase in mean precinct health literacy, voter turnout increased by 0.3 percentage points. A one standard deviation increase in a precinct's mean health literacy would therefore increase participation in the CWF referendum by 10 percentage points.

However, the sociodemographic variables in model 2 better explained turnout compared to model 1. Model 2 reached superior goodness of fit measures across the board. The results aligned with standard explanations of voter turnout in some areas, though not in others.[9] Among the race/ethnicity variables, the percentage of African Americans exerted a positive and significant effect ($p<0.10$) of 0.15, while Asians/Pacific Islanders and Hispanics increased participation by nearly half a percentage point. This ran counter to trends where minorities participated less in elections. Across age groups, results were consistent with past research as the presence of all age groups younger than 65 years lead to significantly less participation. For educational attainment, those with high school and college degrees positively and significantly ($p<0.01$) increased participation by nearly half of a percentage point. However, the presence of those with professional degrees decreased participation substantively and significantly ($p<0.01$) with a coefficient of 1.3. Thus, a one percentage point increase in professional degree attainment decreased participation by 1.3 percentage points in a CWF referendum. All else equal, income did not exert a significant effect.

Appendix E: Normal versus Robust Regression

Appendix Table 4 presents the OLS regression results of the voter turnout and CWF support models. Similar to the robust regression results, the ACS demographic variables out perform the health literacy model both in regards to adjusted R-square and AIC. However, with model for CWF support with OLS specifications reveals that the ACS demographic model also performs better. The coefficients do not substantively differ, and health literacy still achieves statistical significance ($p<0.01$) and goes in the expected direction. Model 4 demonstrates once again that the effects for the some college educated and professional degree populace exert the most substantive impact. With these results, it appears that the second data generating process, also known as the corrupting process[10], exerts a strong effect overall on support for CWF. Therefore, it appears that the ACS model captures the best average effect of the two data generating processes involved in decisions to vote in favor of fluoride. However, once controlling for the corrupting process, health literacy offers more insight into the data generating process of interest. As to what the second data generating process is, there is a strong likelihood that it amounts to the media coverage involved of the election itself. Unfortunately, media coverage cannot be analyzed as an independent variable in our analysis given that we examine only three elections, though see (insert citation to Curiel et al in JADA) for support.

Note: It appears that the ACS demographic model does better with the normal regression, and that none of the observations are dropped. This means that the corruption variable is sufficiently high as found in the normal regression to make the ACS variables better in demonstrating the average DGP as opposed to understanding the main DGP very well.

Appendix F: Health Literacy as quintiles

We employed robust regression in order to prevent outliers from influencing the analysis and controlled for the potential of a second data generating process. Our robust regression conducted a two stage process, first discarding any data with a Cook's Distance greater than one. The second stage iterated through different weighting procedures to identify the best fit.[22] Where no outlying values existed, the number of observations was indistinguishable from a normal regression, and the best weight was found through iterations by ordinary least squares (OLS) estimates.

Appendix Table 5 presents the model of precinct mean health literacy on CWF support, measured as quintiles. Health literacy continues to exert a significant ($p<0.01$) and substantive effect. Appendix Figure 4 presents the expected effect of health literacy on CWF support, and the effects are nearly identical. However, health literacy as measured by quintiles scores a better AIC and BIC, though lower R-square.

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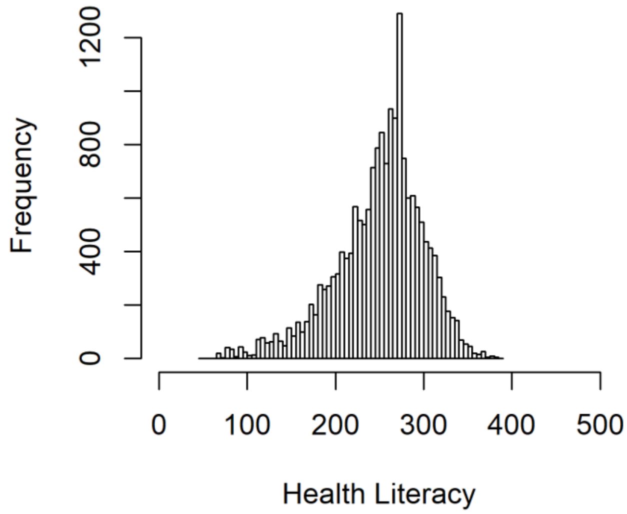
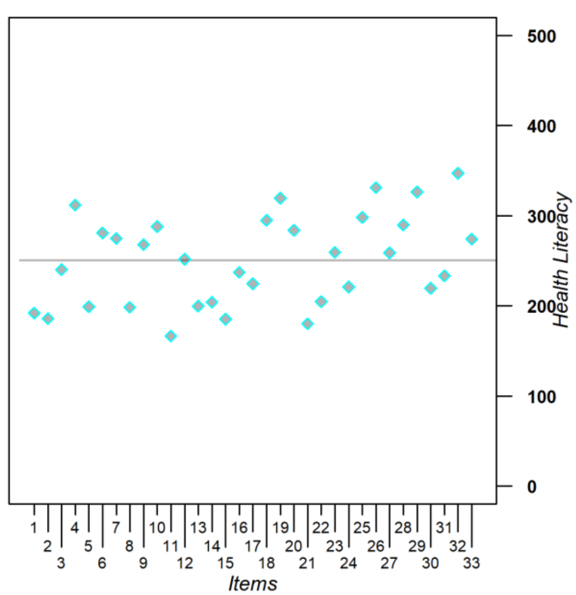
Appendix Figure 1: Distribution of Health Literacy Among NAAL Respondents



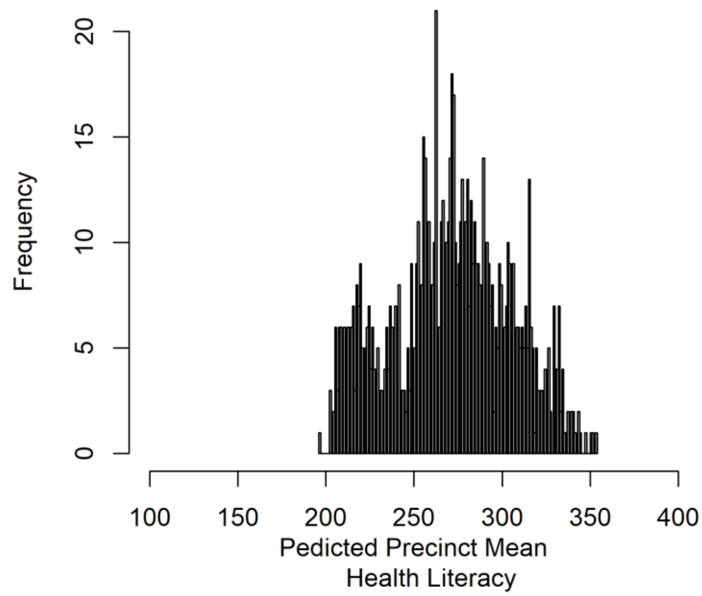
Legend: The histogram reflects the distribution of health literacy scores for the 2003 NAAL respondents as predicted from the GPCM MML model. The mean score is 250, with a 50 point shift reflecting a one standard deviation change.

Appendix Figure 2: NAAL Health Literacy Item Difficulty



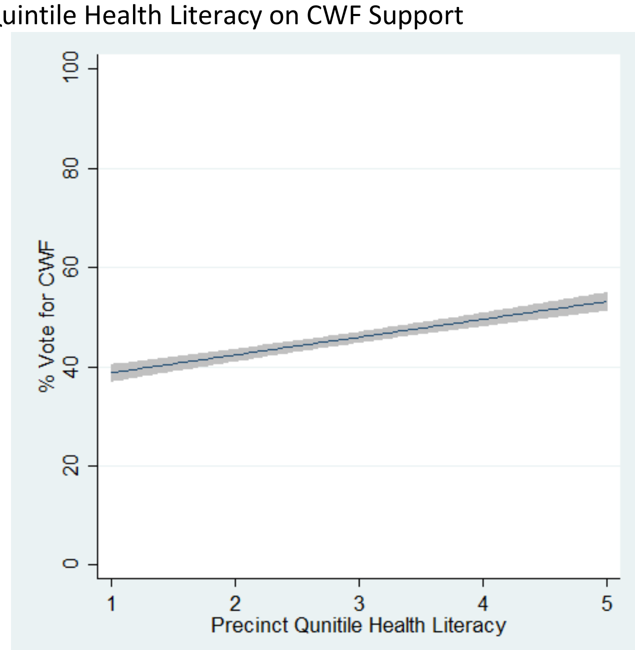
Items are displayed as the expected health literacy an individual would need in order to have a 67 percent probability of answering the item correctly. Items are in the following order: (1) cc002, (2) cc007, (3) c021101, (4) c021101, (5) c040501, (6) c040502, (7) c040503, (8) c040504, (9) c060501, (10) c060601, (11) c071001, (12) c080201, (13) c020901, (14) c030101, (15) c030201, (16) c030301, (17) c050801, (18) c050901, (19) c051001, (20) c051101, (21) c070101, (22) c070901, (23) c071101, (24) n110101, (25) c040601, (26) c040801, (27) c080101, (28) n110201, (29) c040501b, (30) c020901b, (31) c030101b, (32) c071101b, (33) c080101b

Appendix Figure 3: Distribution of Health Literacy by Precinct for Portland, OR, Wichita, KS, and San Antonio, TX



The histogram reflects the distribution of health literacy scores for the 2003 NAAL respondents as predicted from the GPCM MML model. The mean score is 250, with a 50 point shift reflecting a one standard deviation change.

Appendix Figure 4: Effect of Quintile Health Literacy on CWF Support



The shaded bar reflects the 95 percent confidence interval for the expected effect of mean health literacy on precinct support for CWF. The predicted results suggest a substantive and significant effect as the mean precinct health literacy increases, with and effect substantive enough to change election outcomes. The x-axis range reflects the observed range of health literacy, as measured by quintiles.

Appendix Table 1: Summary of Fluoridation Election Results

	Wichita, KS	San Antonio, TX	Portland, OR
Year of election	2012	2000	2013
Type of election	General	General	Special
Decision of election (For or Against Fluoridation)	Against	For	Against
% voting in favor of fluoridation	40%	53%	39%
Population size [1]	385,865	1,144,646	610,055
Number of precincts [2]	171	602	132
Number of voters [3]	C-129,199	C-292,811	C-164,301
	R-274,369	R-772,468	R-435,627
Voter turnout	47%	38%	38%

[1] Based upon the U.S. Census Bureau 2015 American Fact Finder Estimates.

[2] Based upon the number of precincts listed within the precinct level returns for the election.

[3] Contains both the total number of votes cast on the fluoridation referenda (C) and the total number of registered voters (R). Drawn from precinct level returns and numbers reported by counties in official election result statements. The total number of votes cast reflects the number of citizens that voted either “yes” or “no” (or “for” or “against”) on the ballot and does not include any reported under or over votes.

Appendix Table 2: Survey Regression Determinants of Health Literacy

Variable	Parameter	Parameter estimate (standard error)
Gender (ref=Female)	Male	-5.30*** (0.84)
Age (ref=18-24 years)	25-64	-11.42*** (1.37)
	Over 65	-25.43*** (1.82)
Race/ethnicity (ref=non Hispanic White)	Black	-19.32*** (1.13)
	Hispanic	-17.39*** (1.50)
	Other	-5.45*** (2.07)
Language spoken (ref=English)	Non-English	-29.82*** (2.05)
Educational attainment (ref=Some high school or still in high school)	High School/GED	15.15*** (1.38)
	Some College/Vocational	27.22*** (1.33)
	B.A./M.A./Ph.D.	41.55*** (1.47)
Income relative to poverty level (ref=<100% of poverty line)	100-199% of poverty line	5.13*** (1.20)
	200% or more of poverty line	13.23*** (1.09)
Marital status (ref=single)	Married	0.51 (1.16)
	Marriage Over	-3.43** (1.40)
Region (ref=Northeast)	Midwest	3.92*** (1.22)
	South	-2.91** (1.22)
	West	5.24*** (1.36)
Intercept	Constant	248.02*** (1.84)

*p<0.1,**p<0.05,***p<0.01. Results calculated using survey regression, with sample weights, and clustering at the ID and strata levels. The health literacy scores range from 0 to 500, with coefficients as the expected change in health literacy. n= 18,055 survey participants

Appendix Table 3: Robust Regression Models of Turnout for Community Water Fluoridation Referendums

Variable	Parameter	Parameter estimate (standard error) Model 1	Model 2
Health Literacy	(continuous variable)	0.29*** (0.02)	
City (ref=Wichita)	Portland	-25.32*** (1.60)	-33.48*** (2.69)
	San Antonio	-15.64*** (1.26)	-39.16*** (2.86)
% race distribution (Ref=non-Hispanic White)	African American		0.15* (0.08)
	Asian/Pacific Islander		0.52*** (0.19)
	Hipanic		0.48*** (0.08)
	Other race		0.16 (0.12)
% age distribution (ref=65 or more)	<18		-0.40*** (0.15)
	18-24		-0.33** (0.14)
	25-34		-0.52*** (0.17)
	35-44		0.61** (0.26)
	45-54		-0.64** (0.29)
	55-64		-0.02 (0.31)
% education distribution (ref=Some high school or still in high school)	High school degree		0.47*** (0.15)
	Some college		-0.09 (0.14)
	B.A., M.A., or Ph.D.		0.52*** (0.08)
	Professional Degree		-1.29*** (0.31)
% Income distribution (ref=<100% of poverty line)	100-199% of poverty line		-0.01 (0.14)
	200% or more of poverty line		-0.02 (0.10)
Intercept	Constant	-20.95*** (4.50)	18.33 (14.50)
Model fit statistics			
R-squared		0.29	0.31
AIC		1814.08	1210.52
BIC		1834.89	1302.37

*p<0.10, **p<0.05, ***p<0.01. Models 1 and 2 predict precinct turnout for CWF on a 0 – 100 scale. Turnout calculated based on the number of people voting on CWF relative to the number of registered voters within a precinct. AIC= Akaike Information Criterion, BIC= Bayesian Information Criterion

Appendix Table 4: OLS Regression Results of Voter Turnout and CWF Support

		Parameter estimate (standard error)			
		Model 1:	Model 2:	Model 3:	Model 4:
Variable	Parameter	Voter Turnout	Voter Turnout	CWF support	CWF support
Health Literacy	(continuous)	0.12*** (0.02)		0.30*** (0.01)	
City (ref=Wichita)	Portland	-22.46*** (2.52)	-28.98*** (2.93)	-4.20*** (1.46)	-6.90*** (1.69)
	San Antonio	-19.91*** (1.98)	-35.05*** (3.11)	21.53*** (1.12)	12.71*** (1.73)
% race distribution (Ref=non-Hispanic White)	African American		0.13 (0.08)		0.06 (0.04)
	Asian/Pacific Islander		0.60*** (0.21)		-0.03 (0.10)
	Hipanic		0.44*** (0.08)		0.05 (0.04)
	Other race		0.11 (0.13)		0.04 (0.06)
% age distribution (ref=65 or more)	<18		-0.44*** (0.16)		-0.08 (0.08)
	18-24		-0.05 (0.16)		-0.11 (0.08)
	25-34		-0.48*** (0.18)		0.06 (0.10)
	35-44		0.95*** (0.28)		-0.29** (0.14)
	45-54		-0.45 (0.32)		-0.14 (0.16)
	55-64		-0.19 (0.34)		-0.67*** (0.17)
% education distribution (ref=Some high school or still in high school)	High school degree		0.53*** (0.16)		0.04 (0.08)
	Some college		-0.2 (0.16)		0.53*** (0.08)
	B.A., M.A., or Ph.D.		0.49*** (0.09)		-0.06 (0.05)
	Professional Degree		-1.29*** (0.34)		1.05*** (0.19)
% Income distribution (ref=<100% of poverty line)	100-199% of poverty line		0.15 (0.15)		0.02 (0.08)
	200% or more of poverty line		0.02 (0.11)		-0.10* (0.05)
Voter turnout				0.08*** (0.03)	0.08*** (0.03)
Intercept	Constant	19.38*** (7.09)	3.06 (15.78)	-53.22*** (3.75)	18.29** (7.95)
Model fit statistics					
R-squared		0.17	0.25	0.53	0.61
AIC		8080.594	7993.317	5522.004	5390.214
N observations		901	901	739	739

*p<0.10, **p<0.05, ***p<0.01. Models 1 and 2 are voter turnout models, and can be contrasted with models 1 and 2 in Appendix Table 3. As can be seen in the number of observations being the same across tables, no observations were dropped for exerting undue influence, as measured by Cook's Distance. Models 3 and 4 for CWF support can be contrasted with Table 2 within the article. The observations are the same, again reflecting no undue outliers in the data. Changes from the OLS to robust regression models reflect the different weights for the corruption process. AIC= Akaike Information Criterion

Appendix Table 5: Robust Regression of CWF Support with Health Literacy Measured as Quintiles

Variable	Parameter estimate (standard error)
Turnout	-0.03 (0.02)
Health Literacy Quintile	7.92*** (0.25)
Portland	-6.41*** (1.06)
San Antonio	20.59*** (0.83)
Constant	11.14*** (1.30)
Model fit statistics	
R-squared	0.55
AIC	818.17
N observations	843.63

*p<0.10, **p<0.05, ***p<0.01. The quintile measure of health literacy can be contrasted with model 1 of Table 2 within the article. The quintiles breaks down the health literacy data into ordinal variables into five categories.