Supplementary Information

Tables S1 to S7

Figure S1 to S3

Survey

Consent documents

HIPAA documents

Video message links or scripts (English and Spanish)

Experimental methodology

Analysis Code

Table S1. Impact of Treatments on Vaccinations (30-day). Robust standard errors are presented in parenthesis. Marginal effects and pseudo R-squared values are presented for the Probit regressions. Controls inlcude age and its square, race, gender, self-reported income, and education, the language the respondent took the survey in (English/Spanish), whether the respondent was "impaneled," meaning primary health care is provided at Contra Costa Regional Medical Center, and indicators for calendar date.

	OLS			Probit		
CDPH video	0.0026	0.0017	0.0016	0.0179	0.0241	0.0207
	(0.0143)	(0.0144)	(0.0144)	(0.098)	(0.1018)	(0.1014)
Safety video	0.0015	0.0055	0.0055	0.0114	0.0371	0.0339
	(0.0144)	(0.0145)	(0.0145)	(0.0987)	(0.1036)	(0.1034)
Consequences video	-0.0131	-0.0103	-0.0105	-0.0973	-0.1006	-0.1043
	(0.0139)	(0.0137)	(0.0136)	(0.1039)	(0.1063)	(0.1059)
Financial Incentive: Any	-0.0053	-0.0107		-0.0369	-0.0793	
	(0.0104)	(0.0107)		(0.0728)	(0.0768)	
Financial Incentive: $10	0.0012	-0.0013	-0.0014	0.0071	-0.015	-0.0153
	(0.0102)	(0.0102)	(0.0103)	(0.0714)	(0.0738)	(0.0739)
Financial Incentive: $50			-0.0153			-0.1145
			(0.0122)			(0.0922)
Scheduling Link			-0.006			-0.0465
			(0.0129)			(0.0897)
Mean vaccination rate (control group) = 8.82%						
Controls	N	Y	Y	N	Y	Y
R-squared	0.0007	0.0391	0.0393	0.0013	0.0605	0.0608
N	2701	2701	2701	2,701	2,530	2,530

Table S2. Impact of Treatments on Vaccinations (30-day) by Sub-Group. Robust standard errors are presented in parenthesis. * denotes significance at the 10% level; ** at the 5% level and *** at the 1% level. All regressions include controls for age and its square, race, gender, self-reported income, and education, the language the respondent took the survey in (English/Spanish), whether the respondent was "impaneled," meaning primary health care is provided at Contra Costa Regional Medical Center, and indicators for calendar date.

	Age		Gender		Race/Ethnicity			2020 Presidential Support	
	<40	>=40	Female	Male	Black	Hispanic	White	Trump	Biden
CDPH video	0.0008	0.0025	0.0009	-0.014	0.0132	-0.0083	-0.0082	0.0367	-0.0153
	(0.0179)	(0.0262)	(0.017)	(0.0284)	(0.0248)	(0.0271)	(0.0245)	(0.0327)	(0.0209)
Safety video	-0.0012	0.0237	0.0078	-0.0138	0.0373	0.0023	-0.0163	-0.022	0.0148
	(0.0172)	(0.0268)	(0.0171)	(0.029)	(0.0279)	(0.0267)	(0.0237)	(0.0242)	(0.0228)
Consequences video	-0.0137	-0.0032	-0.0077	-0.0298	-0.0058	-0.0162	-0.0067	-0.0074	-0.0217
	(0.0165)	(0.0263)	(0.016)	(0.0299)	(0.0233)	(0.0268)	(0.0233)	(0.0233)	(0.0211)
Financial Incentive: $10	0.0024	-0.0454**	-0.0211	0.0005	-0.0106	-0.0139	-0.0001	-0.0021	-0.0176
	(0.0146)	(0.0226)	(0.0146)	(0.0247)	(0.0218)	(0.023)	(0.0188)	(0.0268)	(0.0182)
Financial Incentive: $50	0.0113	-0.0466**	-0.0162	0.0147	-0.017	-0.022	0.0235	-0.0420**	-0.0026
	(0.0157)	(0.0227)	(0.0153)	(0.0257)	(0.0229)	(0.024)	(0.0219)	(0.0211)	(0.0196)
Scheduling Link	-0.0072	0.0169	0.0072	-0.0216	0.0262	0.0024	-0.0451***	-0.0006	-0.0008
	(0.0124)	(0.0192)	(0.0122)	(0.0197)	(0.0184)	(0.0198)	(0.0168)	(0.0187)	(0.0154)
Mean vaccination rate (control group)	6.9%	12.2%	8.1%	10.8%	7.7%	4.8%	12.7%	5.0%	13.0%
R-squared	0.0424	0.1082	0.0504	0.0823	0.088	0.0831	0.0884	0.1911	0.0488
N	1,815	886	2,007	694	824	908	969	425	1,497

Table S3. Impact of Treatments on Vaccination Intention (30-day). Robust standard errors are presented in parenthesis. * indicates significant at the 10%, ** at the 5% and *** at the 1% level. Pseudo R-squared values are used for the Tobit regressions. Controls inlcude age and its square, race, gender, self-reported income, and education, the language the respondent took the survey in (English/Spanish), whether the respondent was "impaneled," meaning primary health care is provided at Contra Costa Regional Medical Center, indicators for calendar date, and indicators for treatment strata.

	OLS		Tobit	
CDPH video	3.2176*	2.2694	4.3067*	3.0907
	(1.7375)	(1.6758)	(2.4526)	(2.3266)
Safety video	5.5349***	5.6375***	6.7715***	7.0810***
	(1.7814)	(1.7264)	(2.4701)	(2.3506)
Consequences video	8.6457***	8.5017***	12.1006***	11.9819***
	(1.7932)	(1.7405)	(2.4968)	(2.3717)
Mean vaccination intention (control group) = 34.1%				
Controls	N	Y	N	Y
R-squared	0.0091	0.1247	0.0011	0.0171
N	2,701	2,701	2,701	2,701

Table S4. Impact of Treatments on Vaccination Intent (30-day) by Sub-Group. Robust standard errors are presented in parenthesis. * indicates significant at the 10%, ** at the 5% and *** at the 1% level All regressions include controls for age and its square, race, gender, self-reported income, and education, the language the respondent took the survey in (English/Spanish), whether the respondent was "impaneled," meaning primary health care is provided at Contra Costa Regional Medical Center, and indicators for calendar date.

	Age		Gender		Race/Ethnicity			2020 Presidential Support	
	<40	>=40	Female	Male	Black	Hispanic	White	Trump	Biden
CDPH video	3.7043*	-0.0236	2.8155	0.5020	2.1155	4.4827	1.6548	0.3905	0.9161
	(2.0561)	(3.0248)	(1.9254)	(3.5836)	(2.8982)	(3.0991)	(2.9413)	(4.2015)	(2.3902)
Safety video	4.8950**	8.9583***	6.2997***	3.1067	8.9103***	8.0526**	0.9474	5.6264	4.9174**
	(2.12)	(3.0446)	(1.996)	(3.6715)	(3.2009)	(3.1641)	(2.893)	(4.2429)	(2.5031)
Consequences video	9.2520***	7.6323**	9.2348***	6.7443*	11.0681***	9.8832***	6.3533**	11.5964**	8.6894***
	(2.1279)	(3.0922)	(1.9735)	(3.9582)	(3.0642)	(3.181)	(3.0523)	(4.6867)	(2.4541)
Mean vaccination intention (control group)	36.2%	30.48%	31.2%	41.8%	27.6%	36.1%	37.2%	27.7%	39.3%
R-squared	0.1375	0.1977	0.1233	0.2035	0.1213	0.1819	0.1606	0.2255	0.1089
N	1,815	886	2,007	694	824	908	969	425	1,497

Table S5. Impact of Vaccine Intent on Vaccinations (30-day). Robust standard errors are presented in parenthesis. * indicates significant at the 10%, ** at the 5% and *** at the 1% level. Marginal effects and pseudo R-squared values are presented for the Probit regressions. Controls inlcude age and its square, race, gender, self-reported income, and education, the language the respondent took the survey in (English/Spanish), whether the respondent was "impaneled," meaning primary health care is provided at Contra Costa Regional Medical Center, and indicators for calendar date.

	OLS		Probit	
Vaccine Intent	0.0016***	0.0015***	0.0116***	0.0118***
	(0.0002)	(0.0002)	(0.001)	(0.0011)
Mean vaccination rate (control group) = 8.82%				
Controls	N	Y	N	Y
R-squared	0.03947	0.07140	0.0752	0.1235
N	2,701	2,701	2,701	2,530

Table S6. Impact of Gender/Race Concordant Physicians on Vaccinations (30-day). Robust standard errors are presented in parenthesis. * indicates significant at the 10%, ** at the 5% and *** at the 1% level. All regressions include controls for age and its square, race, gender, self-reported income, and education, the language the respondent took the survey in (English/Spanish), whether the respondent was "impaneled," meaning primary health care is provided at Contra Costa Regional Medical Center, and indicators for calendar date.

PANEL A: Gender

	All	Age		Gender		Race/Ethnicity			2020 Presidential Support	
		<40	>=40	Female	Male	Black	Hispanic	White	Trump	Biden
Safety video	-0.0026	-0.0053	0.0087	-0.0009	-0.0149	0.0474	-0.0165	-0.0317	-0.0074	0.0127
	(0.0177)	(0.0207)	(0.034)	(0.0208)	(0.0362)	(0.0387)	(0.0302)	(0.0289)	(0.0297)	(0.0288)
Safety video * Gender Concordance	0.0159	0.0087	0.0282	0.0168	0.0028	-0.0191	0.0409	0.0296	-0.0305	0.0040
	(0.0213)	(0.025)	(0.0406)	(0.0254)	(0.0407)	(0.0475)	(0.0391)	(0.0315)	(0.0219)	(0.034)
Consequences Video	-0.0294*	-0.0428**	0.0016	-0.0221	-0.0585**	-0.0177	-0.0544**	-0.0137	0.0060	-0.0376
	(0.0151)	(0.0167)	(0.0339)	(0.0183)	(0.0273)	(0.0255)	(0.0271)	(0.0266)	(0.0263)	(0.0239)
Consequences Video * Gender Concordance	0.0381**	0.0614***	-0.0090	0.0298	0.0561	0.0246	0.0849**	0.0129	-0.0262	0.0331
	(0.0193)	(0.0232)	(0.0366)	(0.0233)	(0.0359)	(0.033)	(0.0409)	(0.0314)	(0.0251)	(0.0297)
Mean vaccination rate (control group)	8.8%	6.9%	12.2%	8.1%	10.8%	7.7%	4.8%	12.7%	5.0%	13.0%
R-squared	0.04071	0.04551	0.10883	0.05134	0.08481	0.08880	0.08899	0.08928	0.19383	0.04956
N	2,701	1,815	886	2,007	694	824	908	969	425	1,497

PANEL B: Race

	All	Age		Gender		Race/Ethnicity			2020 Presidential Support	
		<40	>=40	Female	Male	Black	Hispanic	White	Trump	Biden
Safety Video	0.0143	0.0130	0.0162	0.0221	-0.0211	0.0354	0.0215	-0.0202	-0.0359	0.0443
	(0.0183)	(0.0221)	(0.0325)	(0.0221)	(0.0343)	(0.0344)	(0.0346)	(0.0274)	(0.0236)	(0.0305)
Safety video * Race Concordance	-0.0180	-0.0293	0.0150	-0.0292	0.0142	0.0042	-0.0371	0.0077	0.0280	-0.0575*
	(0.0212)	(0.025)	(0.0409)	(0.0255)	(0.0412)	(0.046)	(0.0377)	(0.0314)	(0.0194)	(0.0348)
Consequences Video	-0.0044	-0.0060	0.0079	-0.0034	-0.0151	-0.0067	0.0141	-0.0219	-0.0103	-0.0185
	(0.0177)	(0.021)	(0.0354)	(0.0206)	(0.0386)	(0.0286)	(0.0373)	(0.0281)	(0.0245)	(0.0278)
Consequences Video * Race Concordance	-0.0118	-0.0154	-0.0199	-0.0083	-0.0267	0.0016	-0.0568	0.0299	0.0074	-0.0055
	(0.0199)	(0.0239)	(0.0381)	(0.0235)	(0.0394)	(0.0329)	(0.0401)	(0.0313)	(0.0301)	(0.0298)
Mean vaccination rate (control group)	8.8%	6.9%	12.2%	8.1%	10.8%	7.7%	4.8%	12.7%	5.0%	13.0%
R-squared	0.0397	0.0433	0.1087	0.0511	0.0831	0.0880	0.0863	0.0892	0.1928	0.0511
N	2,701	1,815	886	2,007	694	824	908	969	425	1,497

Table S7. Impact of Race/Gender Concordant Physician on Vaccine Intention (30-day). Robust standard errors are presented in parenthesis. * indicates significant at the 10%, ** at the 5% and *** at the 1% level. All regressions include controls for age and its square, race, gender, self-reported income, and education, the language the respondent took the survey in (English/Spanish), whether the respondent was "impaneled," meaning primary health care is provided at Contra Costa Regional Medical Center, and indicators for calendar date.

PANEL A: Gender

	All	Age		Gender		Race/Ethnicity			2020 Presidential Support	
		<40	>=40	Female	Male	Black	Hispanic	White	Trump	Biden
Safety Video	5.6594***	4.4918*	10.3225***	6.2861**	2.6936	6.6202	7.7878**	2.1953	5.7127	6.0972**
	(2.1041)	(2.5534)	(3.7625)	(2.5054)	(4.2852)	(4.1115)	(3.7957)	(3.5246)	(5.1227)	(3.0245)
Safety video * Race Concordance	-0.0525	0.8430	-2.4229	0.0005	0.8543	4.4181	0.5788	-2.4553	-0.0211	-2.3650
	(2.5289)	(3.0767)	(4.4495)	(2.9901)	(5.1273)	(4.9766)	(4.5078)	(4.1605)	(5.7942)	(3.5821)
Consequences Video	7.7745***	6.6079***	11.7073***	8.0202***	8.3495*	9.6450**	10.2625***	3.9727	14.2363**	6.7917**
	(2.1401)	(2.5494)	(3.9603)	(2.4017)	(4.8978)	(3.8207)	(3.8878)	(3.6422)	(5.9977)	(2.8728)
Consequences Video * Race Concordance	1.4711	5.5850*	-7.5795*	2.4923	-3.1595	3.0101	-0.8119	4.3768	-5.1595	3.9388
	(2.5596)	(3.165)	(4.4796)	(2.8722)	(5.8596)	(4.8137)	(4.5084)	(4.4543)	(7.3433)	(3.5387)
Mean vaccination intention (control group)	34.1%	36.2%	30.48%	31.2%	41.8%	27.6%	36.1%	37.2%	27.7%	39.3%
R-squared	0.1248	0.1391	0.2008	0.1236	0.2040	0.1228	0.1820	0.1618	0.2268	0.1099
N	2,701	1,815	886	2,007	694	824	908	969	425	1,497

PANEL B: Race

	All	Age		Gender		Race/Ethnicity			2020 Presidential Support	
		<40	>=40	Female	Male	Black	Hispanic	White	Trump	Biden
Safety Video	6.1362***	4.9990**	9.2803**	7.3503***	2.5750	8.3609**	5.8741	3.5061	3.8490	6.9920**
	(2.1063)	(2.5431)	(3.7401)	(2.4565)	(4.5716)	(3.9584)	(3.7963)	(3.5291)	(5.3242)	(3.079)
Safety video * Race Concordance	-1.0137	-0.2084	-0.6317	-2.1500	1.0667	1.1898	4.2218	-5.1826	3.5674	-4.0858
	(2.5235)	(3.0612)	(4.5627)	(2.9664)	(5.0813)	(4.874)	(4.4254)	(4.0754)	(5.7517)	(3.6328)
Consequences Video	8.3517***	8.3003***	8.1304**	9.7611***	4.6327	12.8079***	6.3781	5.8729	11.4722**	6.5136**
	(2.1949)	(2.7262)	(3.7994)	(2.4801)	(4.9846)	(3.9841)	(4.0299)	(3.6171)	(5.6693)	(3.0764)
Consequences Video * Race Concordance	0.2871	1.8979	-0.9186	-1.0238	3.8951	-3.3762	6.5740	0.9486	0.4140	4.1785
	(2.5723)	(3.168)	(4.4609)	(2.8738)	(5.9911)	(4.6853)	(4.4942)	(4.5203)	(7.6068)	(3.5159)
Mean vaccination intention (control group)	34.1%	36.2%	30.48%	31.2%	41.8%	27.6%	36.1%	37.2%	27.7%	39.3%
R-squared	0.1247	0.1377	0.1977	0.1236	0.2042	0.1220	0.1848	0.1620	0.2264	0.1106
N	2,701	1,815	886	2,007	694	824	908	969	425	1,497

Figure S1

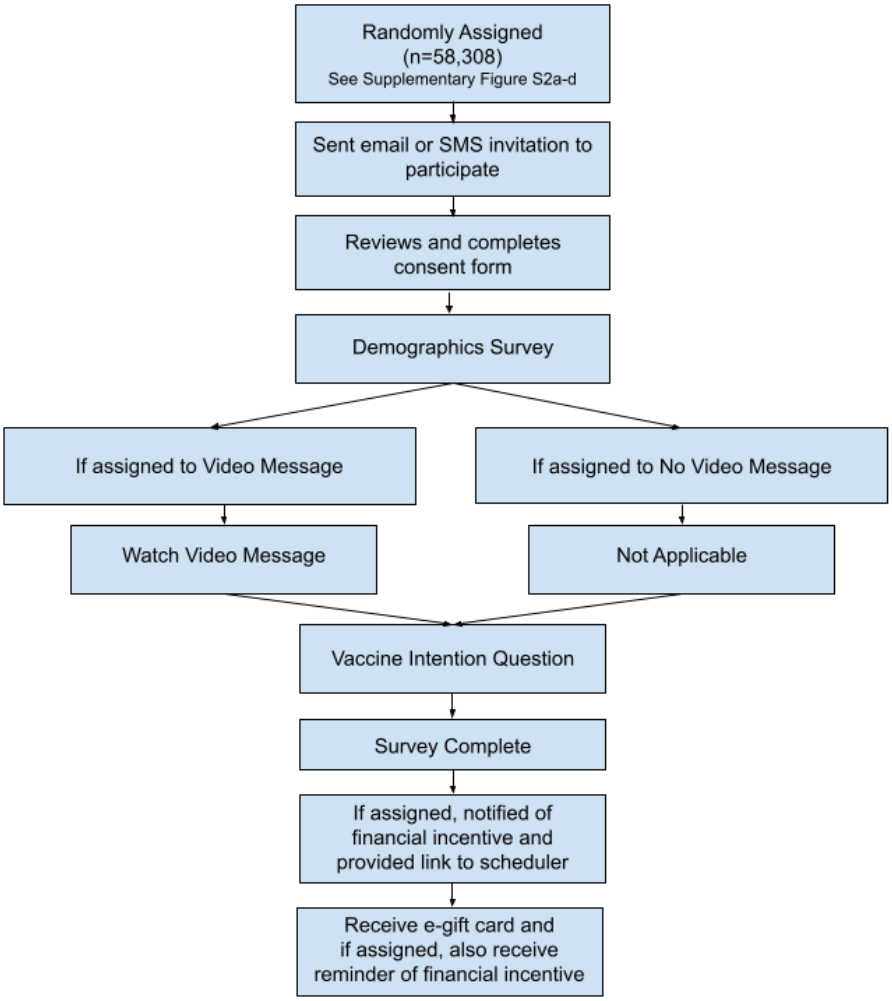

Randomly Assigned
(n=58,308)
See Supplementary Figure S2a-d
Sent email or SMS invitation to participate
Reviews and completes consent form
Demographics Survey
If assigned to Video Message
If assigned to No Video Message
Watch Video Message
Not Applicable
Vaccine Intention Question
Survey Complete
If assigned, notified of financial incentive and provided link to scheduler
Receive e-gift card and if assigned, also receive reminder of financial incentive

Figure S2a

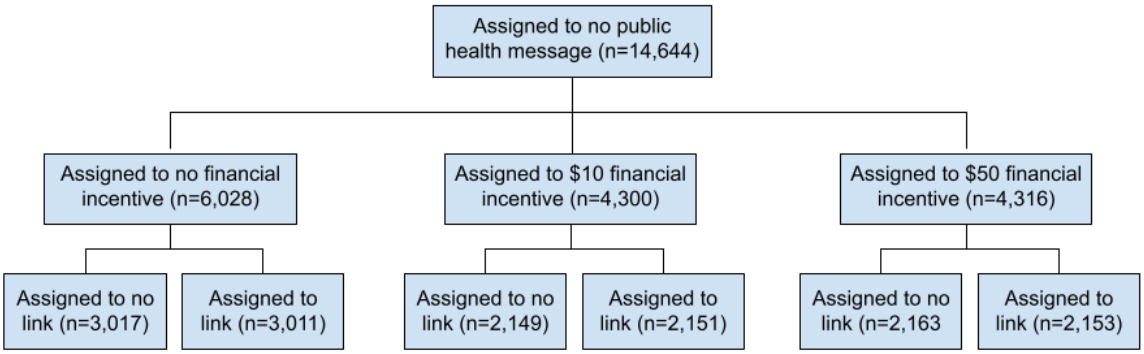


Figure S2b

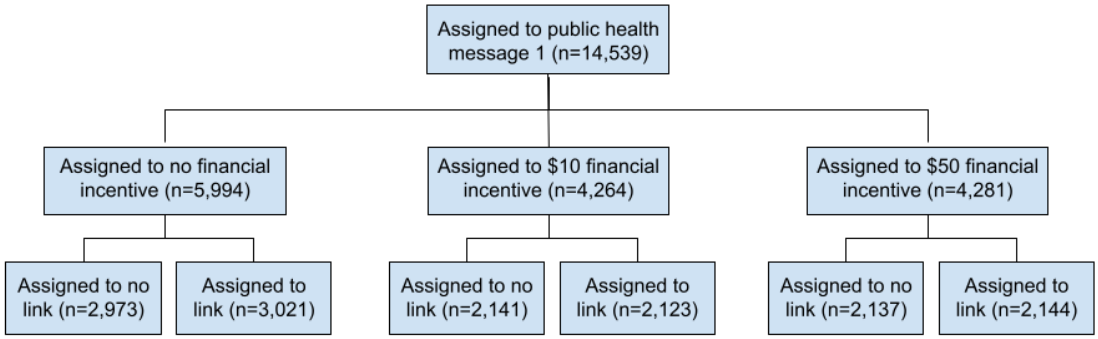


Figure S2c

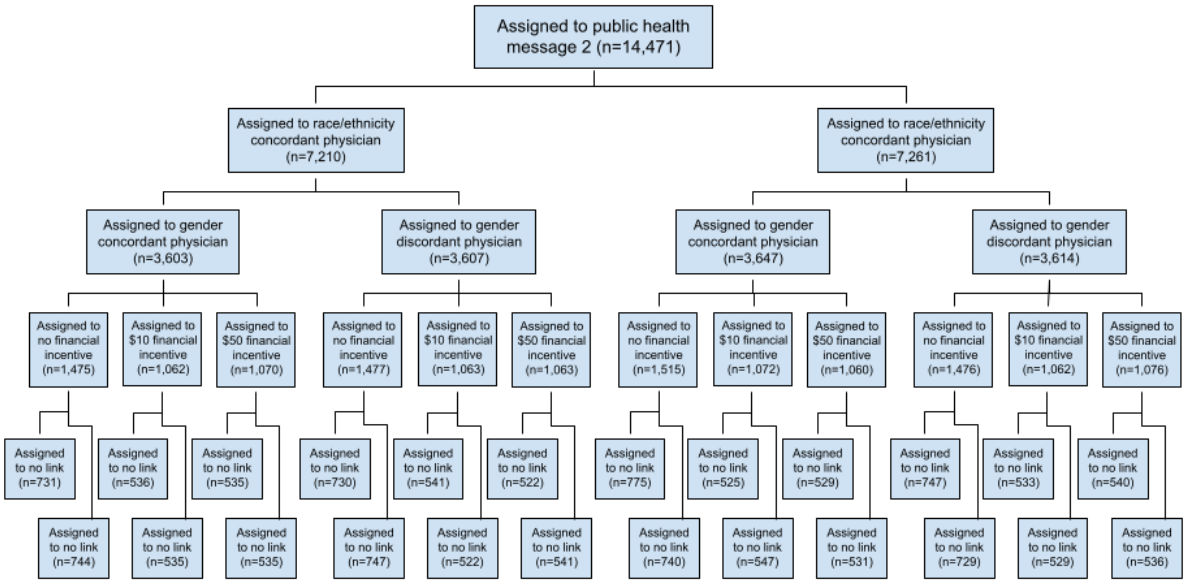
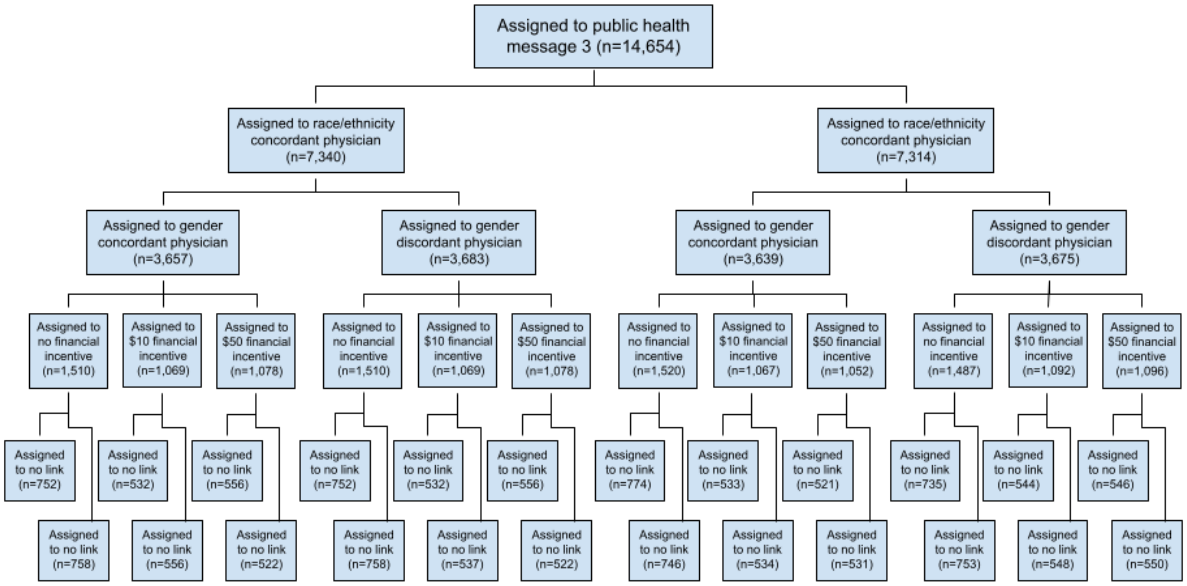


Figure S2d



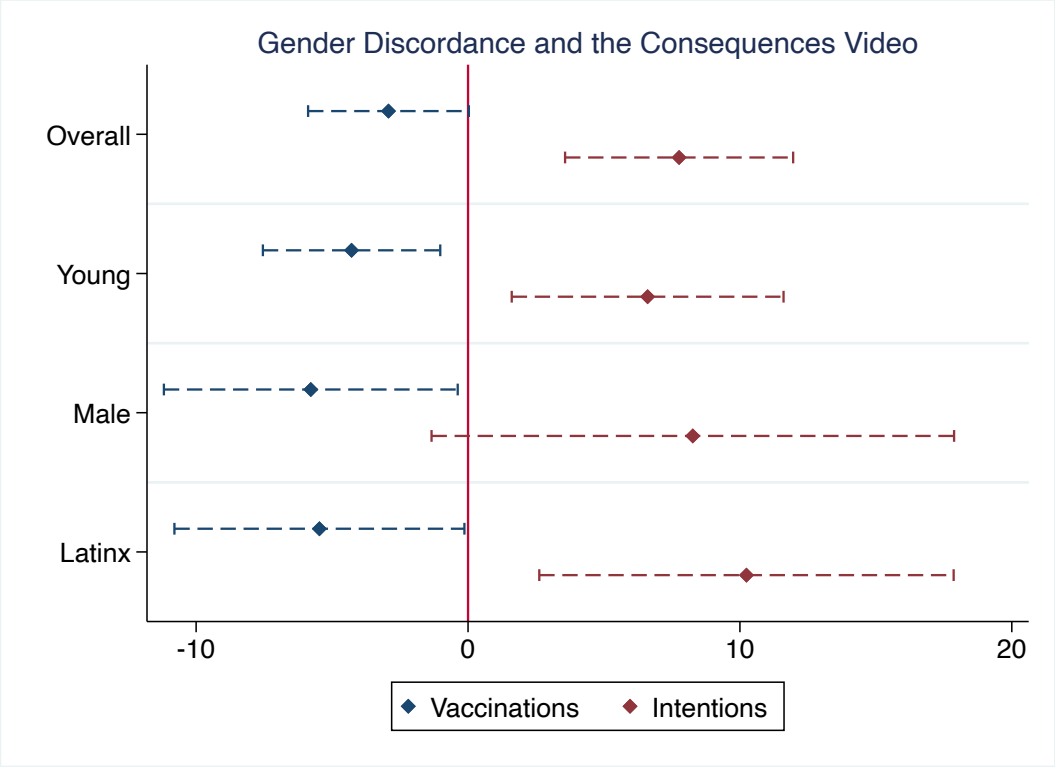


Figure S3. Percentage Point Change in Vaccination Rates and Intentions due to Video Message 3 when the Messenger and Respondent are Gender Discordant Comparison of regression-estimated change in SARS-CoV-2 vaccinations (in blue) and vaccinations intentions (in red) induced by the negative health consequences video messages compared to control overall and by sub-group. Dashed whiskers depict 95% CIs.

[Start Pre-Screening Survey]

Do you prefer English or Spanish? Prefiere Español o English

- Ingles?
- Español

Welcome to the Contra Costa Health Services COVID-19 Survey!
We are a non-partisan group of academic researchers from the University of Southern California (USC) and the University of California Los Angeles (UCLA). Our goal is to learn about people's attitudes related to the novel coronavirus (COVID-19).

The survey is voluntary. You have the right to stop the survey at any time or for any reason. To exit the survey, simply close this window. Study results may include summary data, but you will never be identified. The data will be stored on USC servers and kept confidential.

We expect the survey to take about 10 minutes. You will be compensated for this interview if you (i) complete the survey and (ii) pass our survey quality checks, which use sophisticated statistical control methods to detect incoherent and rushed responses. Responding without adequate effort may result in your responses being flagged for low quality and you may not receive your payment.

Compensation will consist of a $5 gift card for completing the entire survey, and you will be entered into a raffle for a $250 gift card with 500 other survey respondents.

Please note that it is very important for the success of our research that you answer honestly and read the questions carefully before answering. If at any time you don't know an answer, please give your best guess. However, please be sure to spend enough time reading and understanding the questions.

Before we start, please look over our procedures and terms of consent and verify that you meet the conditions for survey participation stated below.

[Attachment: "Consent_doc_update.pdf"]

By checking this box, I certify that I am at least 18 years old and HAVE NOT received one or more COVID-19 vaccination shots.

- I meet all the conditions
- I do not meet all the conditions

[End Pre-Screening Survey]

[Start Consent Form]

Please read the HIPAA authorization form (click on link). You are encouraged to print or save a copy of the document for your records.

If you have any questions about this study, you may contact us at 213-986-6076 or mireillj@usc.edu.
[Attachment: "CCHS HIPAA-Authorization-English_final.pdf"]

If you would like to take part in this study, please sign this form by using on the "add signature" feature, and then click on the submit button at the bottom of the page.

_____

[End Consent Form]

[Begin Demographics]

Thank you for agreeing to take part in our study. We will now ask you a few short questions.

What is your age?

- 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 and over

What is your gender?

- Male
- Female
- Other

With what race do you identify?

- American Indian/Alaska Native
- Asian
- Native Hawaiian or Other Pacific Islander Black or African American
- White
- More Than One Race
- Other

Are you Hispanic, Latino or of Spanish origin?

- Yes
- No

What language do you primarily speak at home?

- English
- Spanish
- Other

[Display if Other] Please specify other language. For example: Korean, Italian, Vietnamese.

_____

What is the highest degree or level of education you have completed?

- Less than high school
- High school diploma or GED

- Some college credit
- Associates degree (e.g., AA, AS)
- Bachelor's degree (e.g., BA, BS)
- Post-bachelor's degree (e.g., MA, MBA, MD, DDS, DVM, JD, PhD)

What is your marital status?

- Married or civil union
- Single, never married
- Divorced
- Separated Widowed/Widower
- Living with partner

How many ADULTS (18 and above) live in your house or apartment, including you?

- 1
- 2
- 3
- 4
- 5 or more

How many children under 18 live in your house or apartment?

- 0
- 1
- 2
- 3
- 4 or more

[End Demographics]

[Begin Income and Employment]

Income and Employment

Please give your best guess of your household income for 2020. Indicate the answer that includes your entire household income before taxes and not including income from unemployment and other benefits.

- Under $10,000
- $10,000 to $19,999
- $20,000 to $29,999
- $30,000 to $39,999
- $40,000 to $49,999
- $50,000 to $74,999
- $75,000 to $99,999
- $100,000 to $149,999
- $150,000 or more

Which of the following best describes your current employment status?

- ○ Employed full time
- ○ Employed part time
- ○ Self-employed full time
- ○ Self-employed part time
- ○ Not employed, but looking for work
- ○ Not employed and not looking for work
- ○ Not employed, and unable to work due to a disability or illness
- ○ Retired
- ○ Student
- ○ Stay-at-home spouse or partner

Is your job among those the government has declared essential in this time?

- ○ Yes
- ○ No
- ○ Don't Know

Does your job allow you to work from home?

- ○ Yes
- ○ No

Please select "Somewhat likely" if you are paying attention.

- ○ Very unlikely
- ○ Somewhat unlikely
- ○ Somewhat likely
- ○ Very likely

If you needed $400 urgently for something, like a car repair or health emergency, would you be able to come up with it?

- ○ Yes
- ○ No

How would you come up with the $400?

- ○ Use your savings
- ○ Use a credit card
- ○ Borrow from a friend or relative
- ○ OTHER

[Display if Other] Please specify OTHER

_____

What is your "go to" source for news?

- ○ Twitter
- ○ Google

- Facebook
- FOX NEWS
- CNN
- MSNBC
- New York Times
- Instagram
- Wall Street Journal
- Snapchat
- Other online source
- Other broadcast news
- Other national newspaper
- Local newspaper
- Local TV news
- Radio
- OTHER

Which candidate did you support in the 2020 presidential election?

- Donald Trump
- Joe Biden
- Other

[End Income and Employment]

[Begin Health]

In general, would you say your physical health is:

- Excellent
- Very Good
- Good
- Fair
- Poor

In general, would you say your mental health is:

- Excellent
- Very Good
- Good
- Fair
- Poor

In the last 2-weeks, how often have you been bothered by the following problems?

Little interest or pleasure in doing things

- Not at all
- Several Days
- More than half the days
- Nearly every day

Feeling down, depressed or hopeless

- Not at all
- Several Days
- More than half the days
- Nearly every day

[End Health]

[Begin Questions about COVID]

Which of the following have you done in the past 7 days to keep yourself safe from the coronavirus (COVID-19) in addition to what you normally do? Only consider actions that you took or decisions that you made personally.

Mark all that apply.

- Worn a face mask
- Washed hands with soap or used hand sanitizer several times per day
- Avoided contact with people who could be at high-risk of illness
- Avoided public spaces, gathering, or crowds
- Avoided eating at restaurants (indoor only)
- Avoided attending in-person religious services
- Worked or studied at home
- Self-isolated at home
- Avoided interacting with own parents and/or grandparents
- Avoided interacting with own children and/or grandchildren
- I've done nothing differently

Do you think you've ever been infected with the coronavirus (COVID-19)?

- Yes
- No
- Unsure

Have you ever been tested for the coronavirus (COVID-19)?

- Yes
- No

[If Yes] Have you ever tested positive for the coronavirus (COVID-19)?

- Yes
- No

Have any of your close relatives or friends been diagnosed with the coronavirus (COVID-19)?

- Yes
- No

Suppose that one of your family members is feeling sick and wants more information about COVID-19. Where would you suggest they get more information? Select all that apply.

- ○ Friends, family, or colleagues
- ○ Social media (i.e., Facebook, Twitter)
- ○ Television
- ○ Local health professionals (i.e., medical doctor)
- ○ The State of California's COVID-19 hotline or website CDC website
- ○ Contra Costa Health Services

What are the main reasons you have not been vaccinated yet (please select all that apply)

- ○ Concerned about side effects
- ○ Waiting to see if they're safe
- ○ Other people need it more than I do
- ○ Don't trust vaccines
- ○ Don't trust the government
- ○ Concerned about allergic reaction
- ○ Don't think I need it
- ○ Don't know if vaccine works
- ○ Don't like vaccines
- ○ Have a health condition that may make vaccine unsafe
- ○ Doctor didn't recommend it
- ○ Worries about cost
- ○ Vaccines against my religious beliefs
- ○ Too hard to schedule
- ○ Haven't had the time
- ○ Concerned about possible long-term impacts

Next, we ask your opinion about how likely you think various events might be. When we ask a question, we would like you to give us a number from 0 to 100, where "0" means you think there is absolutely no chance, and "100" means that you think the event is absolutely sure to happen. For example, no one can ever be sure about tomorrow's weather, but if you think that rain is very unlikely tomorrow, you might say that there is a 10 percent chance of rain. If you think rain is very likely tomorrow, you might say that there is a 90 percent chance of rain.

If you are not sure, please give your best guess

What is the chance that you will get the coronavirus in the next three months?

(Place a mark on the scale above)

What is the chance that someone you know will get the coronavirus in the next three months?

(Place a mark on the scale above)

If someone the same age as you gets the coronavirus, what is the percent chance that they will die from it?

(Place a mark on the scale above)

[End Questions about COVID]

[Begin Video if assigned to a Video Treatment]

Please watch the following video before moving on to the next page. If you do not watch the entire video, your survey risks being flagged as low quality and you may not receive your payment.

<video>

Please rate the video you just watched on the following dimensions

This content is useful

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

This content is trustworthy

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

I would share this video with friends and family

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

[End Video if assigned to a Video Treatment]

[Begin About the COVID Vaccine]

Do you agree of disagree with the following statement about the COVID-19 vaccines approved for use in the US.

- ○ Strongly agree
- ○ Somewhat agree
- ○ Neither agree nor disagree
- ○ Somewhat disagree
- ○ Strongly disagree

Provide important benefits to society

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Have many known harmful side effects

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

May lead to illness and death Are useful and effective

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Contains the coronavirus, COVID-19

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Last question! How likely are you to get a COVID vaccine in the next 30 days? [0-100]

(Place a mark on the scale above)

[End About the COVID Vaccine]

[Begin Thank You Message]

Thank you for completing our survey!

You will received a link for your $5 gift card in the next 48 hours providing instructions on how you can choose from a variety of 100+ different gift cards from companies like Amazon, Target and Walmart.

[If video message 1] Now we have the chance to return to the people and places we love. Let's get our lives back again. Sign up to get the free COVID-19 vaccine today.

[If video message 2] The COVID-19 vaccine was tested with 70,000 people. Over a billion people worldwide have gotten the vaccine, including more than half of all Americans and over 70% of your neighbors in Contra Costa County. So you can feel confident that it is safe and effective. Sign up to get the free COVID-19 vaccine today.

[If video message 3] Please remember that the COVID-19 vaccine is the best way to protect yourself, even if you are young and healthy. Just ask NFL running back Ryquell Armstead, who, like 5-10 percent of young people who had COVID is still suffering from its effects and has been unable to play the game he loves for nearly a year. COVID is mutating and new more dangerous variants are appearing all at the time, and the best way to keep yourself and others safe is to protect yourself with the safe, effective, and free COVID vaccine. So sign up to the your free COVID-19 vaccine today.

[If link treatment] The new Contra Costa Health Systems vaccine scheduling system is the quick and easy way to pick a vaccine appointment time that works for you. Please click on the link and schedule your appointment today!

<CCHS Vaccine Scheduler>

[If $10 incentive] ** You have been randomly selected to receive $10 if you get vaccinated in the next two weeks! **

We know it's hard to find the time to get vaccinated, so we're offering you a little extra incentive! All you have to do is to send an email with either a picture of your vaccination card OR your full name along with the date and location of your vaccination to survey@cchealth.org to receive a $10 gift card.

THIS OFFER APPLIES ONLY TO YOU, the invited survey participant, and to qualify the date of vaccination (first shot only) must be no more than two weeks from today. So schedule your vaccine right away, or just stop by a CCHS administered vaccination site (walk-ins are now welcome)!

[If $50 incentive] ** You have been randomly selected to receive $50 if you get vaccinated in the next two weeks! **

We know it's hard to find the time to get vaccinated, so we're offering you a little extra incentive! All you have to do is to send an email with either a picture of your vaccination card OR your full name along with the date and location of your vaccination to survey@cchealth.org to receive a $50 gift card.

THIS OFFER APPLIES ONLY TO YOU, the invited survey participant, and to qualify the date of vaccination (first shot only) must be no more than two weeks from today. So schedule your vaccine right away, or just stop by a CCHS administered vaccination site (walk-ins are now welcome)!

Principal Investigator: Mireille Jacobson
Study Title: COVID-19 and Preventive Health Behaviors
IRB #: UP-21-00030

HIPAA AUTHORIZATION TO USE CONTRA COSTA HEALTH SERVICES (CCHS) HEALTH INFORMATION FOR RESEARCH

1. Purpose of this Form:

A federal law known as the Health Insurance Portability and Accountability Act (HIPAA) protects how your health information is used. HIPAA generally does not allow your health information to be used or released for research purposes without your written permission. Health information protected under the law includes: medical and dental records, bills or other payment records for health care received, tissue samples, x-rays, laboratory results and any other health information that identifies you. State laws also protect how your health information may be used.

By signing this form, you are allowing your health care providers (for example, physicians, dentists, hospitals, clinics) to share your health information with the researchers and others involved in this research study for the uses described below and also described in the informed consent.

2. Who May Release Your Health Information:

This document permits (i) Contra Costa Health Services to release health information about you to (ii) the researchers for the research purposes described in this document and the informed consent.

3. What Health Information Will Be Used:

Contra Costa Health Services is permitted to use and release (i) all health information that is created during this research study; and all of your health information that the health care provider has in his or her possession, but does not include HIV test results, mental health diagnosis and treatment records, and drug or alcohol treatment records.

4. How Your Health Information Will Be Used:

Your health information may be shared with the following individuals or entities for the following purposes:

Researchers (those individuals in charge of the study), research staff, and students to conduct the research described in the informed consent and other activities related to the research, such as conducting safety analyses.

- The research sponsors, J-PAL North America and the National Bureau of Economic Research, and their authorized representatives, business partners, clinical research organizations and affiliates for the purposes described in the informed consent and for other activities related to the research, such as assessing the safety or efficacy of the drug, device or treatment included in the study, improving designs of future studies or obtaining approval for new drugs, devices or health care products.

- The USC Institutional Review Boards that review research involving human subjects in accordance with regulations;

- USC's clinical trial organization that supports clinical trials administration at USC,

- Other USC offices involved in regulatory compliance, including the Offices of General Counsel and Compliance,

- U.S. government agencies, such as the Food and Drug Administration and the Office for Human Research Protections, government agencies from other countries, and others who are authorized by law to review or oversee this research.

5. <u>Creation of a Research Database</u>:

The following is an optional research activity. You can choose whether or not to participate in these activities and it will not affect your ability to participate in the main research study. Please initial on the line below to give your specific permission to this activity.

_____ Researchers will often study existing health information from large groups of patients in order to test or validate theories that the researcher develops. By initialing above, you allow the USC research team to put your health information in a research database or repository for future research purposes. The USC Institutional Review Board still may review how the researcher uses or releases your health information for future research purposes.

This section of the Authorization will remain in effect indefinitely unless you revoke (cancel) it as described below.

6. **Scope of this Authorization:**

The USC research team will use and release your health information for the purposes described in this authorization and the informed consent or as otherwise permitted by law. However, health information that is shared with others outside USC may not be protected by HIPAA once it is released. Certain health information may still be protected under state law.

7. **Right to Deny Access to Health Information:**

You may not be permitted to access (review or copy) your health information created during this research study while the research study is in progress. You may be entitled to access your health information once the research study is completed.

8. **Term of this Authorization:**

Except for database research, this authorization expires 25 years from the date the study is completed or terminated.

9. **Refusal to Sign/Right to Revoke:**

You must sign this Authorization in order to participate in this research. You may change your mind and revoke (withdraw or cancel) this authorization and your participation in this research study at any time. To do so, your revocation must be sent in writing to the Principal Investigator and include: (1) the title of the research study; and (2) your name and telephone number or address. Please send the revocation to the following:

Professor Mireille Jacobson
3715 McClintock Ave

Los Angeles, CA 90089

You will not be permitted to participate in the research and health information that identifies you will no longer be collected as of the date the Principal Investigator receives

your revocation. However, we may still use and share health information about you that has already been obtained as necessary in order to maintain the integrity of the research study. Also, if the law requires it, the researchers, sponsor, and government agencies may continue to look at your records to review the quality or safety of the study.

10. Questions Regarding Your Privacy Rights:

Please contact the USC Office of Compliance by telephone at 213-740-8258 or email at compliance@usc.edu if you have questions about your privacy rights.

Agreement:

I have read (or someone has read to me) the information provided above. I have been given the opportunity to ask questions and all of my questions have been answered to my satisfaction. By signing below, I agree that my health information may be used as described in this form.

Name of Participant	Signature	Date Signed

Supplementary Materials: Video Scripts

Patients in the study were randomized to 3 possible videos or no video. Within each group, videos were available in both English and Spanish and matched to respondent based on survey completion language. Below we provide links to the videos we used from the California Department of Public Health (CDPH), which are publicly available, and to the scripts of the 2 different videos we made with doctors from Contra Costa Health Services. Because of concerns about provider safety, we are not making links to these doctor videos public. Requests to view the videos can be sent to tychang@usc.edu with a short rationale for the request.

1. **CDPH Videos**

   English language video: https://www.youtube.com/watch?v=FCe4KkshFiQ
   Spanish language video: https://www.youtube.com/watch?v=aloD1MLYVQQ

2. **Scripts for Doctor Videos:**

2.1 Safety and effectiveness script (English):

Hi, my name is Dr. _____, and I work here at Contra Costa Health Services.

Our records indicate that you have yet to receive a COVID-19 vaccine. I urge you to get vaccinated. Health and medical experts in the U.S. and California confirm the vaccines are safe and effective.

The COVID-19 vaccine was tested with 70,000 people, just like you. Right now more than half of all Americans have been safely vaccinated, including over 600,000 people in our county. And that includes me and nearly all of the other doctors here at CCHS.

So you should feel confident that the vaccine is safe and effective. Serious side effects, such as allergic reactions, are extremely rare, and if they do occur, providers have medicines available to effectively treat the reaction. The fact is the vaccines will protect you and your family from getting sick. After getting vaccinated, your chances of being hospitalized with COVID-19 become almost zero. Protect yourself and your family. Schedule your vaccine right away:

Safety and effectiveness:

Hola, Soy la Dra./el Dr._____, y trabajo para los Servicios de Salud del Condado de Contra Costa.

Nuestros registros indican que aún no se ha vacunado contra COVID-19. Le ruego que se vacune. Los expertos médicos y expertos de salud en los EE. UU. y California confirman que las vacunas son seguras y efectivas.

Las vacunas COVID-19 fueron probadas en 70.000 personas, como usted. En este momento, más de la mitad de los Estadounidenses han sido vacunados de manera segura, incluyendo más de 600,000 personas en nuestro condado. Y eso me incluye a mí y a casi todos los médicos que trabajan para los Servicios de Salud del Condadode Contra Costa.

Por lo tanto, puede estar seguro de que la vacuna es segura y eficaz. Los efectos secundarios graves, como las reacciones alérgicas, son extremadamente raras y si ocurren, los

proveedores médicos tienen medicamentos disponibles para tratar eficazmente la reacción. El hecho es que las vacunas lo protegerán a usted y a su familia de enfermarse. Después de vacunarse, las probabilidades de ser hospitalizado por causa de COVID-19 se vuelven casicero. Protéjase a si mismo y a su familia. Programe su vacuna de inmediato.

2.2 Consequences script (English):

Hi, my name is Dr. _____, and I work here at Contra Costa Health Services.

Our records indicate that you have yet to receive a COVID-19 vaccine. I urge you to get vaccinated. The COVID-19 vaccines provide strong protection against moderate to severe disease, hospitalization and death.

COVID-19 has devastated our community. Over 60,000 Californians have died. Many more have become seriously ill. And newer, more dangerous variants are popping up all the time, with young and healthy people increasingly at risk. The effects can be scary.

Imagine struggling to breathe and having to be hooked up to a mechanical ventilator just to keep from drowning in your own lungs. Imagine having permanent trouble remembering things or constantly struggling with debilitating fatigue – something more common in young and healthy people. Without one of the COVID-19 vaccines available today, imagine this could be you. Protect yourself and schedule your vaccine right away:

Consequences script (Spanish):

Hola,
Soy la Dra./el Dr._____, y trabajo para los Servicios de Salud del Condado de Contra Costa.

Nuestros registros indican que aún no se ha vacunado contra COVID-19. Le ruego que se vacune. Las vacunas contra COVID-19 brindan una fuerte protección contra enfermedades moderadas a graves, hospitalización y lamuerte.

COVID-19 ha devastado nuestra comunidad. Más de 60.000 Californianos han muerto. Muchos más se han enfermado gravemente. Y cepas variantes del virus nuevas y peligrosas están apareciendo, poniendo en riesgo a las personas jóvenes y saludables cada vez más. Los efectos pueden dar miedo.

Imagínese tener dificultad para respirar y tener que estar conectado a un ventilador mecánico solo para evitar ahogarse con sus propios pulmones. Imagínese tener problemas permanentes para recordar cosas o luchar constantemente contra la fatiga debilitante, algo más común en personas jóvenes y saludables. Sin recibir una de las vacunas COVID-19 disponibles, imagínese que podría ser usted. Protéjase y programe su vacuna de inmediato

Supplementary Materials: Experimental Methodology

Brief Overview of the Study Protocol

We recruited adult subjects from the Contra Costa Health Plan (CCHP) via baseline survey. Subjects who completed the baseline survey were randomized to the following arms:

1. Control Arm (25%)
2. Message Arm: emotional message vs. safety and effectiveness message vs. consequences of going unvaccinated message, race and/or gender concordant or discordant (75%)

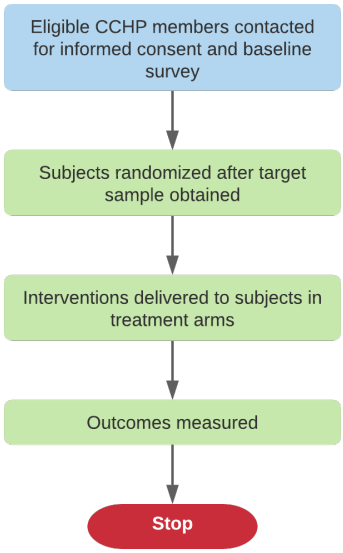
Each of these arms was interacted with a financial incentive of $10 (25%) or $50 (25%) and, separately with a convenient link to the county public vaccine appointment scheduling system highlighted for participants (50%).

The above treatments were designed to test the role of the following on vaccination intentions and vaccine uptake:

- Messaging [75%] vs not [25%]
    - Message type: emotion [25%] vs. safety and effectiveness [25%]] vs. consequences of not vaccinating [25%]
- Race concordant [25%] vs. race discordant messenger [25%]
- Gender concordant [25%] vs. gender discordant messenger [25%]
- Financial incentives [50%] vs. no financial incentives [50%]
    - 25% randomized to a $10 incentive and 25% to a $50 incentive
- Convenient scheduling link highlighted [50%]] vs. not [50%]

We obtained survey data on preventative health behaviors and intentions to vaccinate. We obtained data on vaccine uptake from the California Immunization Registry (CAIRs).

Figure 1: Study Flow Diagram



Recruitment and Retention

CCHP members who were unvaccinated were invited to participate in the study via email or text. We initially provided $5 gift cards for baseline survey completion as well as entry into a raffle for $250 gift cards. Our protocol was later revised to increase the baseline survey incentive from $5 to $25 to encourage subject enrollment.

Screening and Eligibility Criteria

CCHS provided contact information for eligible members.

Eligibility Criteria

Eligible subjects were adult CCHP members with no previous COVID-19 vaccination history and no contraindications to COVID-19 vaccination, as determined in CCHP medical staff.

Informed Consent

Informed consent was obtained during the baseline survey to recruit subjects. The IRB-approved consent documents are included as supplementary materials.

HIPAA Authorization

Personal health information (PHI) was obtained in keeping with the Health Insurance Portability and Accountability Act (HIPAA). The IRB approved a partial HIPAA waiver for purposes of study participant recruitment. The study outcome, COVID-19 vaccination, is PHI. The IRB-approved HIPAA authorization forms are included as supplementary materials.

Study Intervention

Subjects in treatment arms received the following interventions:

- Messaging [75%] vs not [25%]
    - Message type: emotion [25%] vs. safety and effectiveness [25%] vs. consequences of not vaccinating [25%]
- Race concordant [25%] vs. race discordant messenger [25%]
- Gender concordant [25%] vs. gender discordant messenger [25%]
- Financial incentives [50%] vs. no financial incentives [50%]
    - 25% randomized to a $10 incentive and 25% to a $50 incentive
- Convenient scheduling link highlighted [50%] vs. not [50%]

Randomization

We stratified our sample based on based on race/ethnicity, age-group and 2020 presidential candidate support (from the survey). Randomization was performed in the RedCAP system. In practice, the randomization divided the sample into 60 possible conditions:

1. Control [6.25%]
2. Control x $10 financial [3.125%]
3. Control x $50 financial [3.125%]
4. Control x link [6.25%]
5. Control x $10 financial x link [3.125%]
6. Control x $50 financial x link [3.125%]
7. CDPH video (language concordant) [6.25%]

8. CDPH video (language concordant) x $10 financial [3.125%]
9. CDPH video (language concordant) x $50 financial [3.125%]
10. CDPH video (language concordant) x link [6.25%]
11. CDPH video (language concordant) x $10 financial x link [3.125%]
12. CDPH video (language concordant) x $50 financial x link [3.125%]
13. Safety and effectiveness (race concordant, male) [1.5625%]
14. Safety and effectiveness (race concordant, male) x $10 financial incentive [0.78125%]
15. Safety and effectiveness (race concordant, male) x $50 financial incentive [0.78125%]
16. Safety and effectiveness (race concordant, male) x link [1.5625%]
17. Safety and effectiveness (race concordant, male) x $10 financial incentive [0.78125%]
18. Safety and effectiveness (race concordant, male) x $50 financial incentive [0.78125%]
19. Safety and effectiveness (race concordant, female) [1.5625%]
20. Safety and effectiveness (race concordant, female) x $10 financial incentive [0.78125%]
21. Safety and effectiveness (race concordant, female) x $50 financial incentive [0.78125%]
22. Safety and effectiveness (race concordant, female) x link [1.5625%]
23. Safety and effectiveness (race concordant, female) x $10 financial incentive x link [0.78125%]
24. Safety and effectiveness (race concordant, female) x $50 financial incentive x link [0.78125%]
25. Safety and effectiveness (race discordant, male) [1.5625%]
26. Safety and effectiveness (race discordant, male) x $10 financial incentive [0.78125%]
27. Safety and effectiveness (race discordant, male) x $50 financial incentive [0.78125%]
28. Safety and effectiveness (race discordant, male) x link [0.78125%]
29. Safety and effectiveness (race discordant, male) x financial incentive x link [0.78125%]
30. Safety and effectiveness (race discordant, male) x financial incentive x link [0.78125%]
31. Safety and effectiveness (race discordant, female) [1.5625%]
32. Safety and effectiveness (race discordant, female) x $10 financial incentive [0.78125%]
33. Safety and effectiveness (race discordant, female) x $50 financial incentive [0.78125%]
34. Safety and effectiveness (race discordant, female) x link [1.5625%]
35. Safety and effectiveness (race discordant, female) x $10 financial incentive x link [0.78125%]
36. Safety and effectiveness (race discordant, female) x $50 financial incentive x link [0.78125%]
37. Consequences of going unvaccinated (race concordant, male) [1.5625%]
38. Consequences of going unvaccinated (race concordant, male) x $10 financial incentive [0.78125%]
39. Consequences of going unvaccinated (race concordant, male) x $50 financial incentive [0.78125%]
40. Consequences of going unvaccinated (race concordant, male) x link [1.5625%]
41. Consequences of going unvaccinated (race concordant, male) x $10 financial incentive x link [0.78125%]
42. Consequences of going unvaccinated (race concordant, male) x $50 financial incentive x link [0.78125%]
43. Consequences of going unvaccinated (race concordant, female) [1.5625%]
44. Consequences of going unvaccinated (race concordant, female) x $10 financial incentive [0.78125%]

45. Consequences of going unvaccinated (race concordant, female) x $50 financial incentive [0.78125%]
46. Consequences of going unvaccinated (race concordant, female) x link [1.5625%]
47. Consequences of going unvaccinated (race concordant, female) x $10 financial incentive x link [0.78125%]
48. Consequences of going unvaccinated (race concordant, female) x $50 financial incentive x link [0.78125%]
49. Consequences of going unvaccinated (race discordant, male) [1.5625%]
50. Consequences of going unvaccinated (race discordant, male) x $10 financial incentive [0.78125%]
51. Consequences of going unvaccinated (race discordant, male) x $50 financial incentive [0.78125%]
52. Consequences of going unvaccinated (race discordant, male) x link [1.5625%]
53. Consequences of going unvaccinated (race discordant, male) x $10 financial incentive x link [0.78125%]
54. Consequences of going unvaccinated (race discordant, male) x $50 financial incentive x link [0.78125%]
55. Consequences of going unvaccinated (race discordant, female) [1.5625%]
56. Consequences of going unvaccinated (race discordant, female) x $10 financial incentive [0.78125%]
57. Consequences of going unvaccinated (race discordant, female) x $50 financial incentive [0.78125%]
58. Consequences of going unvaccinated (race discordant, male) x link [1.5625%]
59. Consequences of going unvaccinated (race discordant, male) x $10 financial incentive x link [0.78125%]
60. Consequences of going unvaccinated (race discordant, male) x $50 financial incentive x link [0.78125%]

Randomization assignments were documented for future reference.

Blinding and Unblinding (Masking and Unmasking)

There was no scope for masking in this study. Subjects randomized to video messages saw them towards the end of the survey, before the question about vaccination intentions. Those randomized to financial incentives and/or the scheduling link were provided these details at survey completion. A remind about financial incentives was sent with the survey completion gift certificate email/text.

Data Collection and Management

Individual-level survey data, vaccine registry (CAIRS2) data, and randomization information re maintained electronically by the study team. Survey data was received directly by the study team. Vaccination data was transmitted from CCHS to the study team. Data transfers relied on Box.com, which encrypts the data during transfer and at rest. USC and CCHS will executed a data use agreement before transferring any data.

Data, which include PHI, are stored on secure servers only available to the research team. Coded data will be used for analysis and will be stored separately from the identifiable data.

Participant data will be retained by the study team for at least the NIH minimum of three years. We have no plans for data destruction at this time. Informed consent was included in the baseline survey and will be maintained indefinitely.

The study team viewed data from CCHS as well as survey data and performed standard data quality checks, to include flagging missing, out-of-range, or illogical data.