The Use of Explicit Health Benefits Packages Increases Support for Universal Health Care for People with High Objective Numeracy

Sean X. Duan BS[1], Victoria A. Shaffer PhD[1]

[1]University of Missouri—Columbia Department of Psychological Sciences

: seanxduan@gmail.com

: @DuanXiaoaho

Background and Objectives

- Universal Health Care (UHC) lacks support in the U.S.
- Literature indicates that opposition to UHC is rooted in lack of comprehension and perceptions that it may be unfair.
- Explicit Health Benefits packages (HBPs) may improve support for UHC by outlining the cost and scope of care, directly addressing these concerns.
- To test this, we compared support for UHC after an HBP intervention, uninformative control, or 'standard' UHC messaging

Methods

- Study 1 (N=189) – randomly assigned to build an HBP, assess a provided HBP, or an uninformative control
- Study 2 (N=412) – randomly assigned to either build an HBP or read informational pamphlets about UHC; see Figure 2.
- HBPs were built or provided using the "Choosing Healthplans All Together" (CHAT) simulation exercise
  - This consists of allocating a limited set of resources to benefit types (e.g. dental) and choosing scope of coverage (basic-to-high); see Figure 1.
- For each condition in both studies, participants:
  - Rated support for UHC (0-100) pre/post intervention
  - Provided demographic information (age, sex, race, etc.)
- For Study 2, participants also:
  - Rated comprehension of UHC (0-100) pre/post
  - Rated perceived equality of UHC (0-100) pre/post
  - Completed objective (Rasch Numeracy Scale) and subjective (Subjective Numeracy Scale) measures of numeracy.

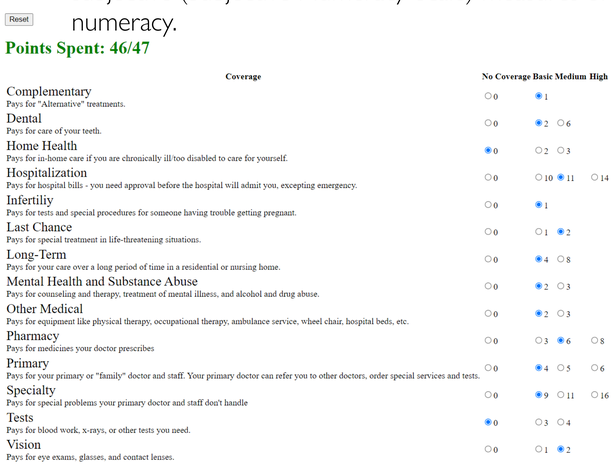


Figure 1. Web application for "Choosing Healthplans All Together" exercise.

Table 1. Demographics for Study 1

Characteristic	Active Intervention, N = 60[1]	No Intervention, N = 62[1]	Passive Intervention, N = 63[1]	p-value[2]
Age	18.55 (0.70)	18.44 (0.93)	18.37 (0.63)	0.13
Sex				0.7
Female	36 / (60%)	41 / (66%)	42 / (67%)	
Male	24 / (40%)	21 / (34%)	21 / (33%)	
Race				>0.9
Caucasian/White	46 / (77%)	49 / (79%)	48 / (76%)	
African-American/Black	6 / (10%)	6 / (9.7%)	7 / (11%)	
Other	5 / (8.3%)	4 / (6.5%)	4 / (6.3%)	
Asian/Pacific Islander	3 / (5.0%)	3 / (4.8%)	3 / (4.8%)	
Hispanic/Latino(a)	0 / (0%)	0 / (0%)	1 / (1.6%)	

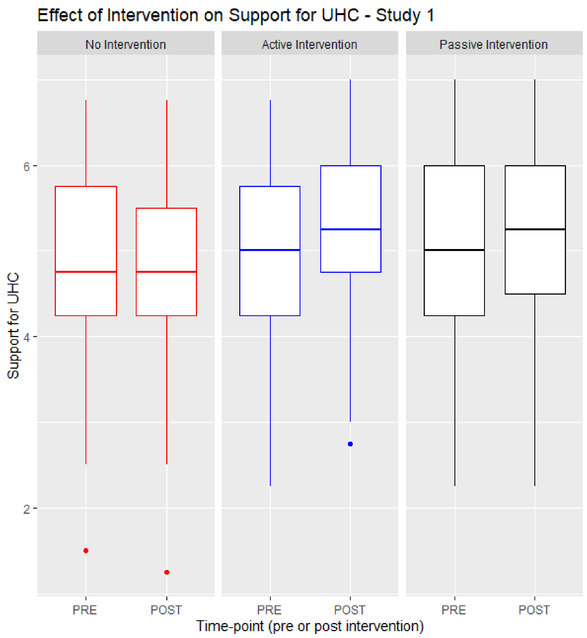
[1] Mean (SD); n / (%)
[2] Kruskal-Wallis rank sum test; Pearson's Chi-squared test; Fisher's exact test

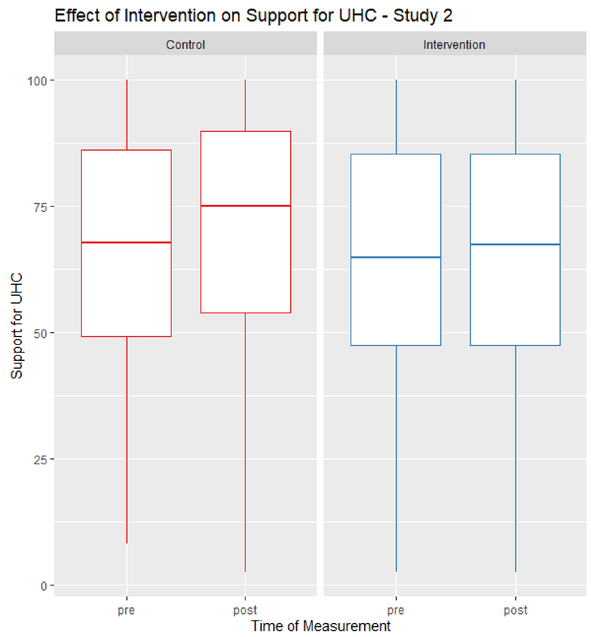
Results

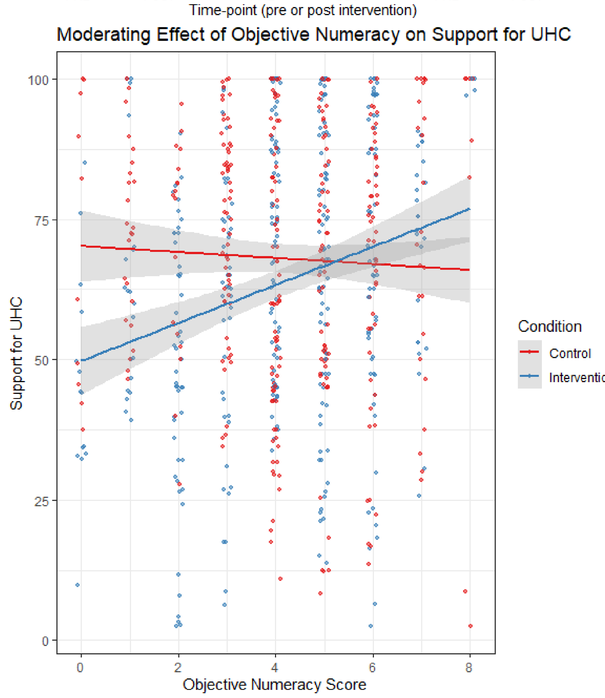
Table 2. Demographics for Study 2

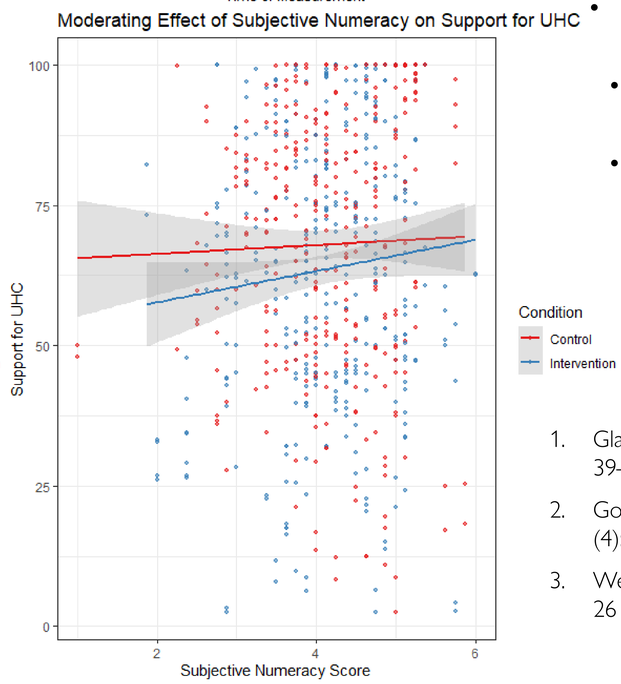
Characteristic	Control, N = 195[1]	Intervention, N = 217[1]	p-value[2]
Age	18.68 (1.75)	18.84 (2.08)	0.3
(Missing)	1	2	
Gender			>0.9
Female	127 / (66%)	146 / (68%)	
Male	64 / (33%)	68 / (31%)	
Gender Variant/Nonconforming	2 / (1.0%)	2 / (0.9%)	
(Missing)	2	1	
Race			0.9
White	153 / (78%)	161 / (74%)	
Black	17 / (8.7%)	22 / (10%)	
Other	10 / (5.1%)	11 / (5.1%)	
APAC	8 / (4.1%)	10 / (4.6%)	
Hispanic/Latino	5 / (2.6%)	10 / (4.6%)	
American Indian/Alaska Native	2 / (1.0%)	3 / (1.4%)	

[1] Mean (SD); n / (%)
[2] Wilcoxon rank sum test; Fisher's exact test









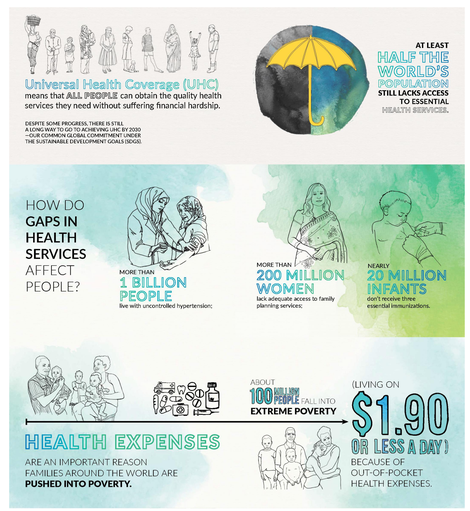


Figure 2. Example infographic provided as 'standard' UHC messaging in Study 2

Discussion

- In Study 1, both HBP interventions improved support for UHC compared to the control
- In Study 2, there was no direct effect of intervention on support for UHC.
  - However, there was a significant interaction between intervention and objective numeracy
  - Greater objective numeracy predicted increased support for UHC in the intervention versus the control.
- Support for UHC was mediated by perceived equity, but not comprehensibility
  - E.g. Increase in UHC support in control condition was partly mediated by increased perceived equity
  - Conversely, lack of increase in UHC support in the intervention was due to lack of improved perceived equity

Selected References

1. Glassman, Amanda, et al., (2016) Health Systems and Reform 2 (1): 39–50 https://doi.org/10.1080/23288604.2016.1124171.
2. Goold, Susan et al., (2005) Journal of Health Politics, Policy and Law 30 (4): 563–601. https://doi.org/10.1215/03616878-30-4-563.
3. Weller, Joshua A et al., (2013) Journal of Behavioral Decision Making 26 (2): 198–212. https://doi.org/10.1002/bdm.1751.

This project was completed as part of a Masters thesis at the University of Missouri, and did not receive funding