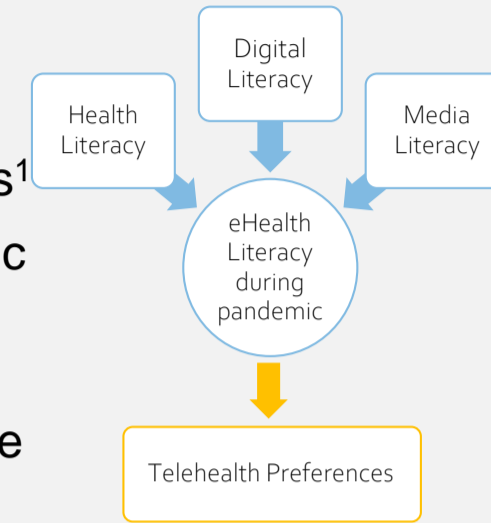


Telehealth and COVID-19: The Role of eHealth Literacy in Patient Telehealth Preferences and Utilization

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Problem

- The pandemic led to rapid digital transformation in US
****Telehealth utilization is 20x higher vs pre-pandemic¹**
- However, telehealth utilization varied widely across populations¹
- The telehealth adoption gap raises concerns that the pandemic is worsening already existing disparities²
- As UCM pursues the Annual Operating Plan to expand digital health services, it is important to consider what factors mediate access and capability
- A prior study reported that while many digital health interventions assessed health literacy (HL) or digital literacy, none assessed domains of eHealth literacy model^{3,4,5}
- eHealth literacy (eHL) extends the traditional concept of health literacy into the realm of electronic sources of health information and digital health services⁶
- Therefore, understanding eHealth literacy may aid in identifying opportunities for more equitable telehealth rollout

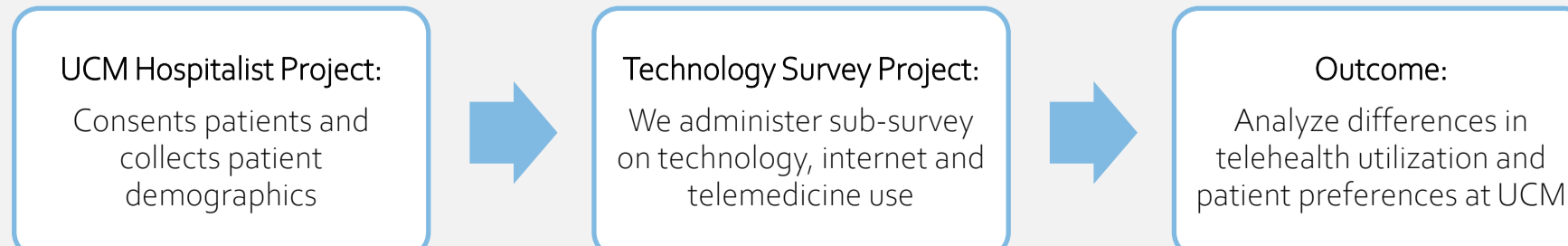


Goal

- Evaluate patient telehealth adoption at UCM before and during the pandemic and observe the differences across patient demographics
- Evaluate association of eHealth Literacy levels on telehealth usage and preferences

Strategy

- Data collected 8/2020 — 8/2021 by administering a survey by phone to patients:
 - Technology and internet ownership and usage
 - Telehealth utilization and video versus phone telehealth usage
 - Validated 8-item eHL scale (eHEALS)⁷
 - 3-item HL (BHLS) tool⁸
- Adequate eHL was defined as the mean eHEALS score
- The survey was implemented as a sub-study of the Hospitalist Project, an adult, inpatient study at UCM⁹
- We used univariate, bivariate and multivariable statistical models to analyze the role of eHealth literacy in patient telehealth adoption and preferences



When stratified by eHL, sub-populations were significantly different (Table 1):

- Patients with inadequate eHL tended to be an older population, with less education and lower HL

Characteristic	All	Adequate eHL	Inadequate eHL	p-value
Participants (N)	266	195	71	
Median age (years)	57	52	65	<0.01
Female, %	50%	53%	42%	0.1
Race, %				0.2
Black	61%	58%	69%	
White	25%	29%	13%	
College graduate, %	34%	39%	21%	<0.01
Low health literacy, %	35%	29%	52%	<0.01

Table 1: Characteristics of participants by eHealth Literacy level

Overall, the percentage of patients reporting having used either phone or video telehealth increased by 435%

- There were no significant differences in telehealth usage by phone (p=NS), but video telehealth adoption lagged across some factors (p≤.01)
- Video telehealth use was significantly lower during the pandemic for Black and older patients, and those without college education or with lower HL and/or eHL; p≤.01
- Video telehealth use was significantly lower during the pandemic for patients with inadequate eHL (p<.01), whereas there was no significant difference for phone telehealth use (p=NS) (Figure 1)

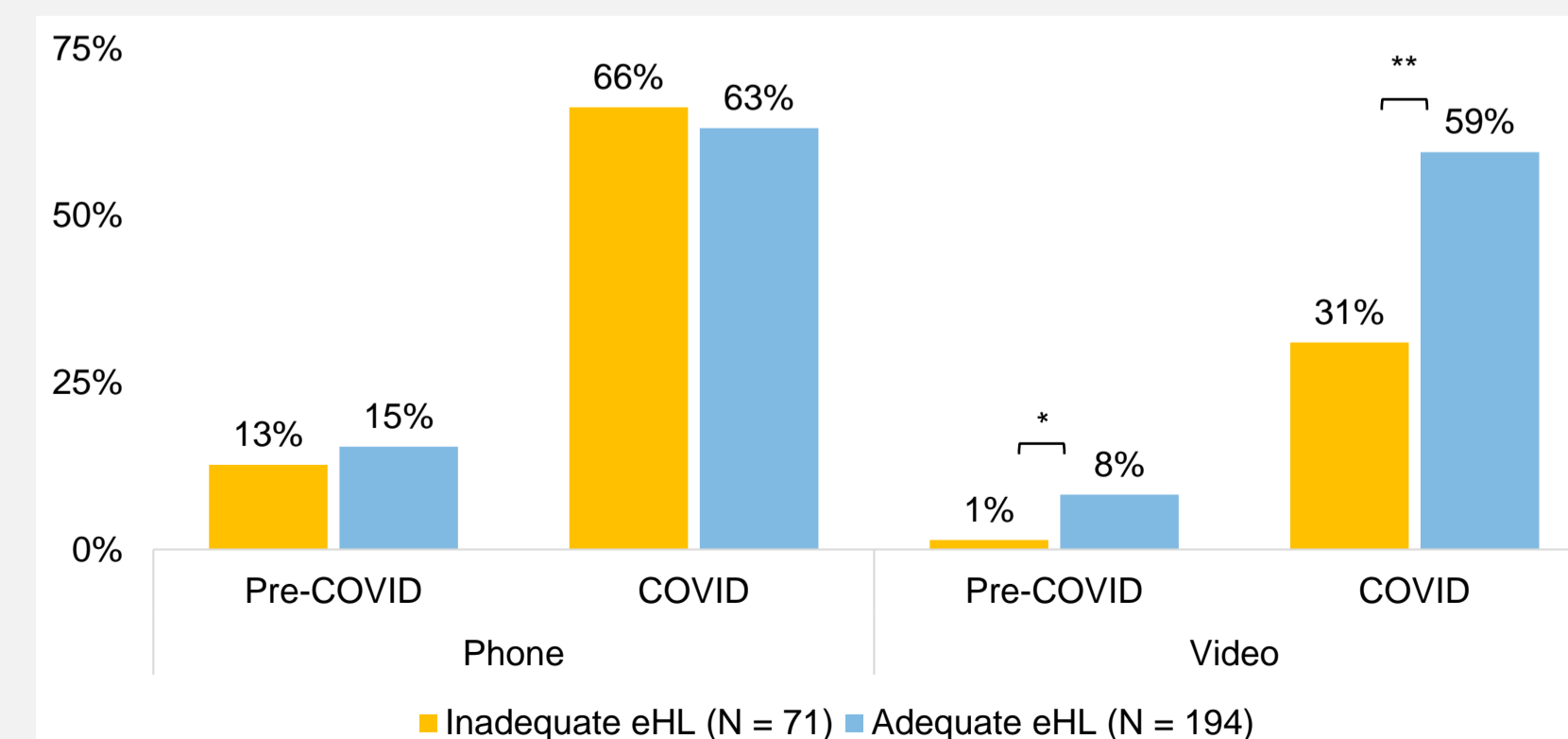


Figure 1: Percentage of patients reporting telehealth use pre-pandemic and during the pandemic by eHealth literacy level; * p<0.05; ** p<0.01

Results

Those with low eHL are less likely to report being willing to use telehealth (Figure 2)

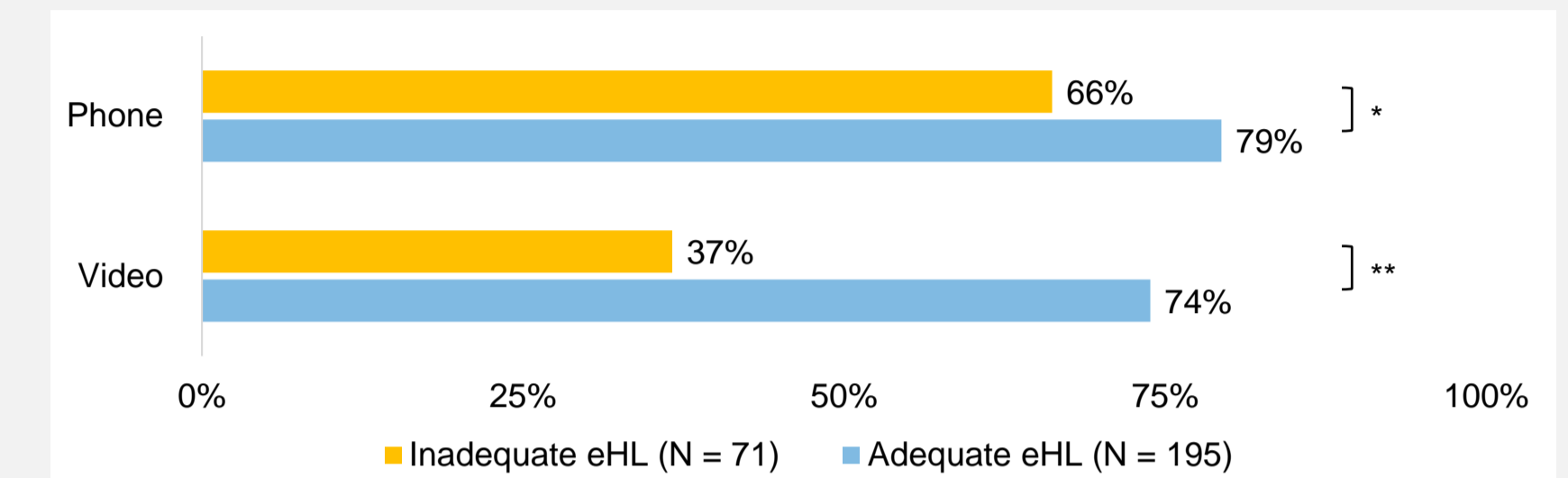


Figure 2: Willingness to use telehealth by eHealth literacy level; * p<0.05; ** p<0.01

Device ownership & internet access differed significantly

- Age was associated with significant differences in tablet ownership (p=.02) and owning multiple devices (p=.02), but not internet access (p=NS)
- eHL was associated with differences in home internet access, smart phone, laptop/desktop, tablet, and multiple devices; p<.01

Significant predictors for willingness to use video telehealth included:

- eHL, age, home internet access, video capability, and laptop access
- Age was the only predictor for willingness to use phone telehealth
- HL not a significant predictor for willingness to use video/phone telehealth
- Patients' eHL level differed significantly by age, race, education and HL

Conclusions

We found eHL has a key role in telehealth utilization and telehealth willingness

- Inadequate eHL → less engagement and interest in using video telehealth
- HL was not a predictor of patient willingness to use telehealth (video/phone)

We did not see telehealth adoption gaps for phone usage, but we observed significant telehealth adoption gaps for video technology

- eHL measurement captures challenges of digital literacy in video use
- Impact of eHL on video telehealth preferences has implications for visits that require visual assessment and patient quality of care

Acknowledgements

References: 1) Cantor JH et al. *Am J Prev Med.* 2021; 2) Press VG et al. *JAMA Health Forum.* 2021; 3) Vollbrecht H et al. *JMIR.* 2020; 4) Vollbrecht H et al. *JGIM.* 2021. 5) Benny ME. *JMIR.* 2021; 6) Norman CD et al. *JMIR.* 2006 8(2); 7) Norman CD et al. *JMIR.* 2006 8(4); 8) Chew LD et al. *J Gen Intern Med.* 2008; 9) Meltzer D. *Ann Intern Med.* 2002

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