

UNDERSTANDING THE INTERSECTION OF HEALTH AND TECHNOLOGY IN RURAL NORTHEAST COLORADO: EXPLORING GAPS, BARRIERS AND OPPORTUNITIES FOR DIGITAL HEALTH INTERVENTIONS

PROJECT INTRODUCTION

- Significant health disparities exist in rural areas (Sparks, 2011) and technology has been identified as a potentially powerful tool to combat disparities in rural communities (Okobi et al., 2023; Seaton et al., 2022).
- However, the extent to which digital health tools and health technology is used in rural areas, as well as perceptions surrounding how technology could be leveraged to promote health remains limited.
- This project aimed to survey the community and conduct stakeholder interviews to better understand community experiences and perceptions surrounding the potential role of technology in supporting health and wellness in rural Northeast Colorado.
- The project consisted of 1) a short survey assessing experiences with using technology for health, perceptions surrounding health and health technology, and 2) up to 10 interviews with community members to better understand their experiences, desires and concerns about the use of technology to promote health.

INTERNSHIP GOALS

- To establish a partnership between Colorado State University (CSU) and CSU Extension in Logan County and Northeast Colorado to address health and technology access issues.
- To work closely with community members to understand health and wellness among rural youth and families and explore the role of technology in promoting health.

HOW DOES IT APPLY TO MY EDUCATION

- Applying epidemiological principles and research methods learned in my MPH program to real-world public health challenges, particularly in rural communities.
- Hands-on experience in community engagement and qualitative research, enhancing my understanding of public health practice.

INTERN ROLE

- Assisted in development and submission of an IRB protocol to ensure ethical research practices.
- Supported recruitment efforts by collaborating with community leaders and stakeholders.
- Engaged directly with the community to gather data through surveys and interviews. Conducted data analysis, contributed to the development of study materials.

WHAT WE LEARNED

Surveys:

- Sample (N=41): 22% identified as Hispanic and 68.3% as female. Largest age groups: 31-40 years (26.8%) and 18-30 years (19.5%). Language: English (82.9%). County: 75.6% Logan.
- Participants use health technology extensively, primarily healthcare portals (61%) and health apps (51.2%). Some note technology tools can help with increasing physical activity (39%) and mental health (34.1%); while others note technology negatively impacts sleep (46.3%), physical activity (34.1%), mental health (34.1%), and concentration (34.1%).
- About 46% of participants prefer to receive health support in-person, while 31.7% prefer apps/devices. Stress management was a notable area of interest for receiving support (22%).
- Approximately 17% rated having low comfort using technology.

Interviews:

- Sample (N=5): 100% Hispanic. 60% Female. Age: 12-17yrs.
- Health is viewed as a balance between physical and mental health, though physical activity is prioritized. There's variability in how well teens manage their mental health.
- While technology was perceived as being a useful tool in supporting health behavior, it was also noted to negatively impact some aspects of health (e.g., sleep).
- Tools that track health behavior, provide feedback, facilitate goal-setting and are personalized were noted to be particularly useful in supporting health behavior.
- Social influences emerged as important to support health as teens often rely on family, friends, and coaches for support healthy habits. Teens also desire health education supports in-person and in groups.

Table 1.

Category	Response (%)
Technology Ownership and Access	
Almost constantly (>10 hours/day)	12 (29.3%)
Very frequently (7-10 hours/day)	13 (31.7%)
Frequently (4-6 hours/day)	11 (26.8%)
Technology Use for Health	
Very frequently	13 (31.7%)
Frequently	7 (17.1%)
Occasionally	10 (24.4%)
Health and Technology	
Telehealth services	20 (48.8%)
Health-related mobile apps	21 (51.2%)
Health-related devices	19 (46.3%)
Healthcare patient portal	25 (61%)
Negative Impact of Technology on Health	
Negatively affects my sleep	19 (46.3%)
Keeps me from being physically active	14 (34.1%)
Negatively affects my mental health	14 (34.1%)
Less meaningful social connections	12 (29.3%)
Negatively affects my concentration attention	14 (34.1%)
Positive Impact of Technology on Health	
Improves physical activity	16 (39%)
Supports mental health	14 (34.1%)
Helps my eating habits	13 (31.7%)
Improves my sense of social connection	13 (31.7%)
Facilitates my learning about health	12 (29.3%)
Interested receiving health support	
In person	19 (46.3%)
Phone	8 (19.5%)
Text	12 (29.3%)
Apps/ device	13 (31.7%)
Not interested	9 (22.0%)
Interest in Health Behavior Support	
Stress management	9 (22%)
Physical activity	4 (9.8%)
Eating habits	4 (9.8%)
Comfort with Health Technology	
Very comfortable	24 (58.5%)
Somewhat comfortable	9 (22%)
Concerns About Health Technology	
Privacy or safety concerns	12 (29.3%)
Limited opportunities for personal interactions	8 (19.5%)

FUTURE DIRECTIONS

- Promote digital literacy and comfort using technology, focusing on ways technology can support health management, physical activity and mental wellbeing. Include tips on how to prevent the negative influences of technology on health.
- Create in-person community programming with opportunities for health education and health-promoting activities.
- Develop resources that encourages family discussions surrounding health and technology to promote awareness of how technology can support/hinder healthy habits.
- Opportunities for teen education focused on building resilience, a growth mindset and stress management skills, incorporating technology tools that can support mental health and stress management.