Advancing Digital Equity in Rural Agricultural Communities

An Applied Research Project with Farmworkers, Community Health Workers, Growers and Producers, and Public Libraries

Roger Russell, MLS *(co-PI)*
Associate Director

Jamie Bloss, MLIS, AHIP *(co-PI)*
Library Associate Professor

Mary Roby, MLS
Assistant Director for User Services

Presenters & Partners

- **Laupus Health Sciences Library**
- Roger Russell, MLS *(co-PI)*
  Associate Director
- Jamie Bloss, MLIS, AHIP *(co-PI)*
  Library Associate Professor
- Mary Roby, MLS
  Assistant Director for User Services
- Elizabeth Ketterman, MLS

- **East Carolina University/NC State University**
- Joseph G.L. Lee, PhD, MPH – ECU Health Education & Promotion
- Leslie Cofie, PhD, MPH – ECU Health Education & Promotion
- Catherine LePrevost, PhD - NCSU Assoc. Extension Professor, Applied Ecology
- Emery Harwell, BA - NCSU Social/Clinical Research Specialist
- Julianna Nieuwsma – PhD candidate at NCSU

Our research will attempt to answer 3 main questions

1. How accessible is internet for farmworkers?

2. What are the information literacy levels of farmworkers and farmers?

3. How well are farmworker communities being served by information-facilitating organizations like libraries and internet service providers?

- "A library-centered applied research program to advance digital equity for farmworkers in North Carolina"
- August 1, 2022 – July 31, 2025
- ECU & NCSU
- Broad Goals
  - ✓ Addressing digital inclusion
  - ✓ For farmworkers/communities: engage civically, improve health/education/economic status with broadband access
  - ✓ Document information to support policy change
- 8 research questions – divided among 3 project Aims

- Largest survey administered to farmworkers in NC assessing internet access, devices used, and cost of internet - 20 CHWs, eight sites, 1,034 farmworkers across NC during the 2023 agricultural season, May 31, 2023-December 27, 2023

- Majority were male (77.77%), of Hispanic/Latino ethnicity (98.55%), born in Mexico (94.96%), and spoke Spanish (98.01%).

- Most farmworkers reported having internet access (76.49%)

- Access the internet through cellular data (84.93%), having a cellular phone with internet (93.88%), having a device with video abilities (95.07%) and paying for the internet on their own (82.63%)

- Farmworkers spend on average $43.60 per month on internet
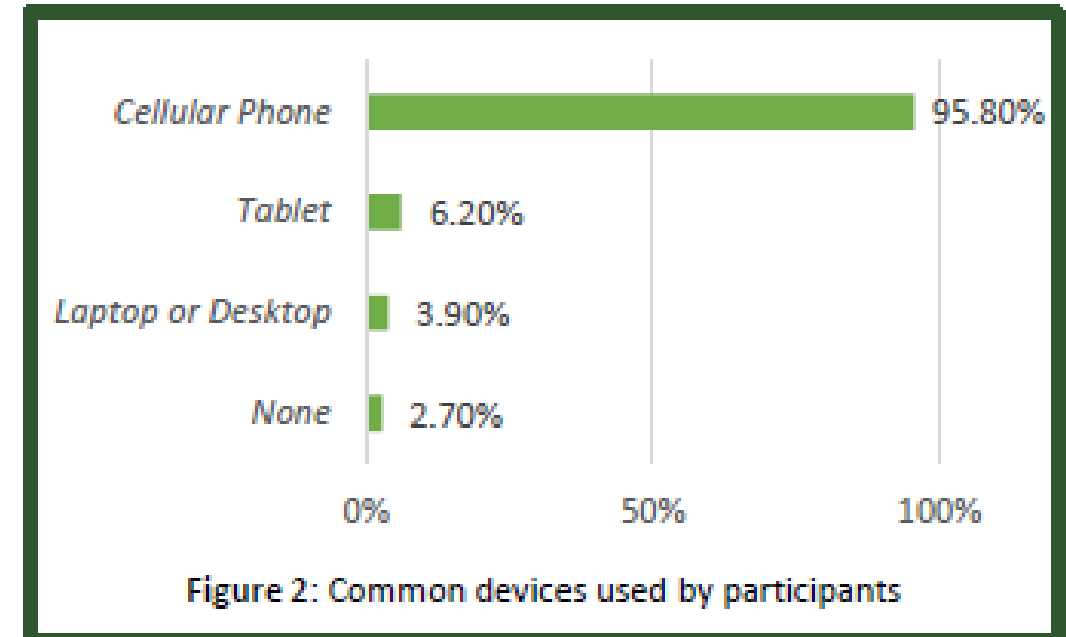
Communicating with Mobile Phones

- 81% of participants had consistent cell phone coverage for calls or texting
- 13.3% of participants could only send messages *some of the time*
- 3.7% of participants could only send and receive messages if there was Wi-Fi
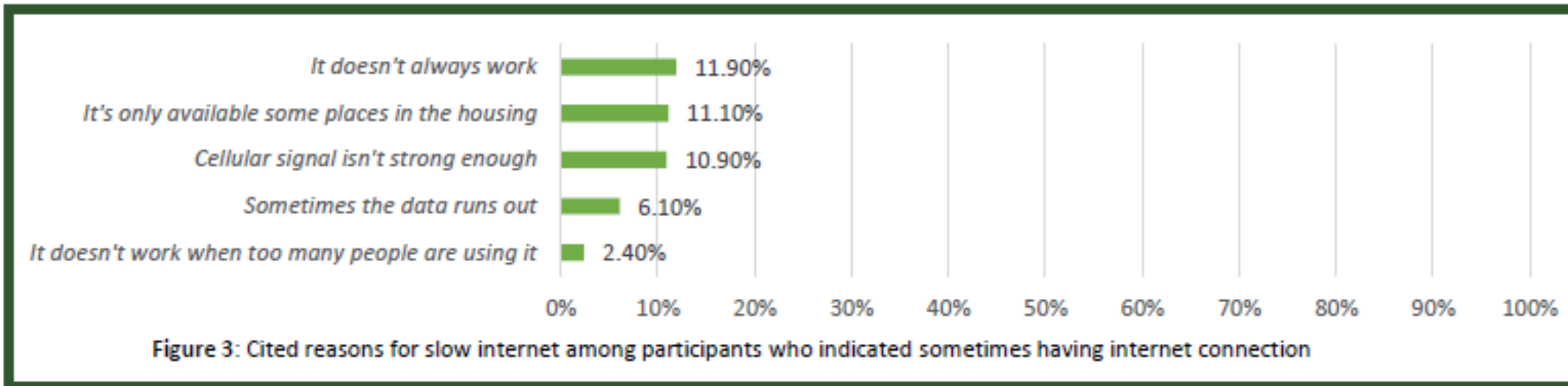
Available Devices

- Mobile phones were by far the most common device (Figure 2)
- 94.7% of devices allowed for video chat (if there was internet)

Figure 2: Common devices used by participants

| Device	Percentage
Cellular Phone	95.80%
Tablet	6.20%
Laptop or Desktop	3.90%
None	2.70%

Internet Access and Speed

- 7.7% of participants had internet access through a NC Farmworker Health Program emergency hotspot
    - 21.3% of participants had internet access *sometimes,* none reported no internet access
    - 31.3% of participants with internet had fast enough internet to watch an online video *sometimes,* and 7.5% *did not* have fast enough internet to watch an online video
- Excluding participants with state-provided hotspots,
    - 25% of participants had internet access *sometimes*, and 4.3% had *no* internet access
    - 41.7% of participants with internet had fast enough internet to watch an online video *sometimes,* and 8.7% *did not* have fast enough internet to watch an online video
- Unreliable networks, poor cell service, and internet working only in certain places in the housing were all reasons why internet only sometimes worked (Figure 3)

Figure 3: Cited reasons for slow internet among participants who indicated sometimes having internet connection

Internet Service Type

- 80% of participants with internet access used cellular networks (Figure 4), and few participants had access to other sources of internet like cable, fiber optic, wired internet (14.3%) or satellite (2.2%)
- Most participants paid for their own internet, spending about $49 per month
- Most commonly used social media platforms were WhatsApp, Facebook, and YouTube (Figure 5)

Figure 4: Sources for internet connection

Figure 5: Commonly used social media platforms by participants
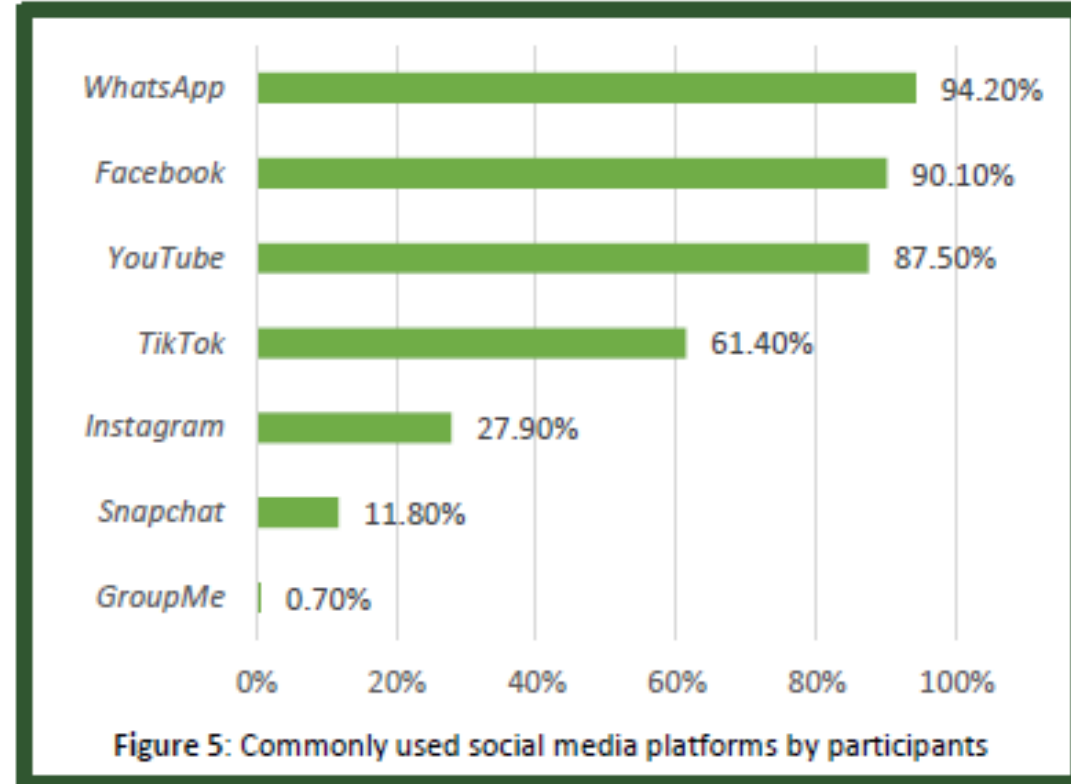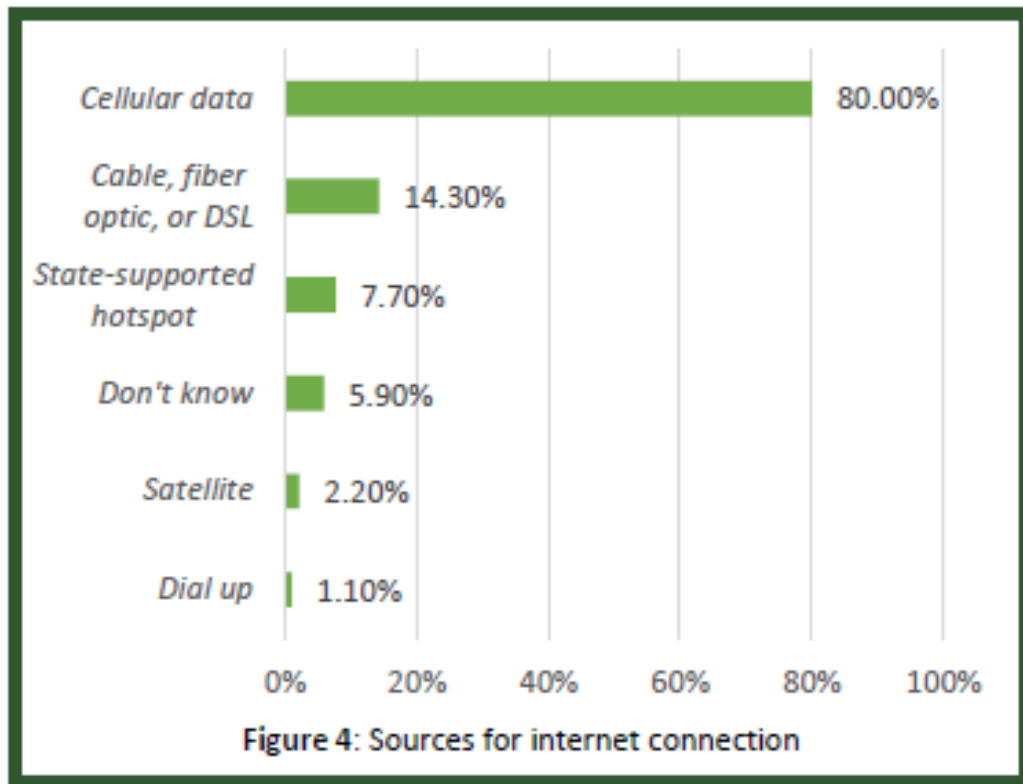
Preliminary Conclusions:

- Almost one in four farmworkers did not have consistent internet access

- Affordable Connectivity Program and the state hotspot program are limited by funding and thus are unlikely to be permanent solutions.

- Slightly more than half of farmworkers did not have internet speeds that allowed for consistent use of video calls.

- Majority of farmworkers without internet are using cellular data and mobile devices for internet access.

- Our findings document important inequities in access to the internet and all of the services and information therein for farmworkers.

- Growers/producers – broad range of skill level, determined by age, experience, education, and resistance to technology
- Farmworkers generally reported limited or basic skills (often keeping in touch with relatives).
- Self-efficacy: grower/producers had mixed views on their confidence to navigate the internet and access information they need.
- Farmworkers reported less confident about abilities but many indicated they able to access the information they need.

Desire to learn:

- Farmworkers expressed a desire to learn but lack time and opportunity.
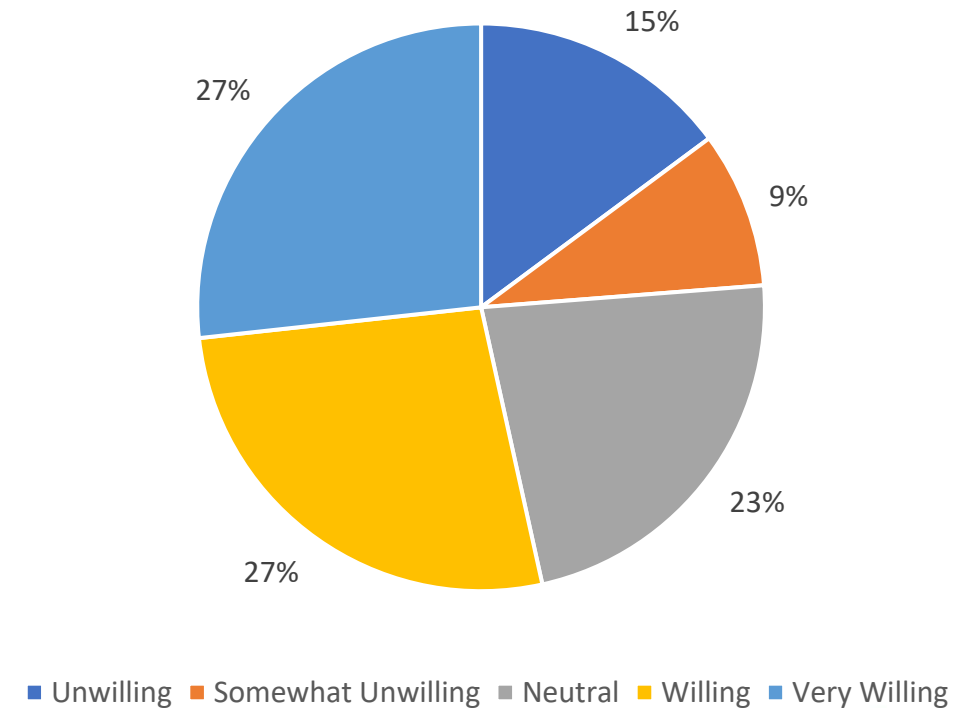- Farmers would like classes useful for their business.

ECU

Aim 2 – Preliminary Farmer Survey Results

What are the information literacy levels and needs of farmworkers and farmers, and what are the implications for libraries related to resources, programming and education materials?

Survey of farmers n= 129

- Most had access to a smartphone (110), or computer (98), and 62% had access to a tablet (71).

- 43% had made and attended a telehealth appointment without assistance. 41% had never had to make or join a telehealth appointment.

- Most seemed fairly confident in their digital/information literacy skills, but they did tend to use apps or software they were already familiar with rather than learning new ones. They also felt that the information they found on the internet was only sometimes trustworthy (75).

Willingness to participate in a video conference with a doctor for a non-emergency health issue

15%
9%
23%
27%
27%

■ Unwilling ■ Somewhat Unwilling ■ Neutral ■ Willing ■ Very Willing

ECU

- Approximately 400 solicitations
- Responses n = 58 (14.5%)
- Library administrator: 23%
- Public service librarian: 62%
- Public library: 85% ; Academic/community college: 15%
- 50% have participated in outreach to agricultural communities and rural areas
- 11% have participated in outreach to migrant & seasonal farmworkers
  - 45% of those who have NOT rated themselves as "Very Interested" in outreach

AIM 3 – Public Library Survey

- Biggest barriers (no previous programs):
  - 70% lack of personal time
  - 70% knowledge of how best to work with communities
  - 33% budget
  - 30% lack of data to prove need

- If NOT interested in outreach to these communities, why:
  - 67% not a priority of my administrators
  - *"We found that there was no demand for this type of outreach in our area, we tried some programs in partnership with the cooperative extension, but there was no participation."*

- Biggest barriers (previous programs)
  - 69% lack of engagement from community members when services were provided
  - 56% personal time
  - 50% establishing trust with community members
  - 50% communicating with community members
  - 38% identifying community members/partners

- County broadband planning/implementation
  - 30% libraries participated
  - 36% received additional funding
  - 80% considered their participation a success

- Biggest barriers
  - 80% lack of understanding of broadband planning/advocacy work
  - 40% not a priority for my administrators
  - 40% need additional training
  - 20% other needs of the community are higher priority

Acknowledgements & Grant Website

- russellr@ecu.edu

- https://lib.ecu.edu/sites/farmworker-digital-equity/

THANK YOU