Networked Technology in Rural and Remote Locations: The Good, the Bad, and the Future

Roberta Melvin & Andrea Bunt
Human-Computer Interaction Lab
Department of Computer Science
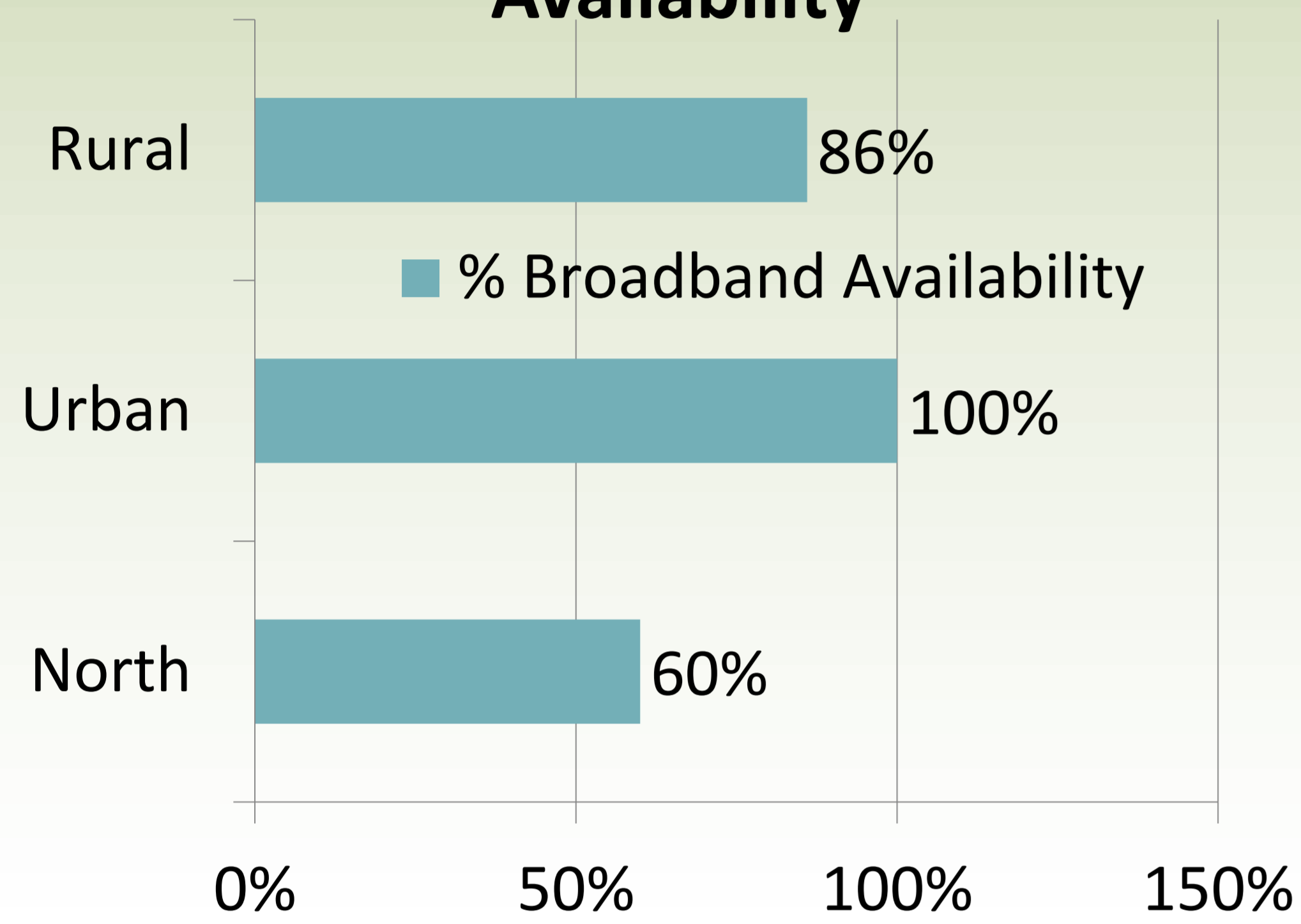**University of Manitoba**

Qualitative Study

13 Semi-structured interviews
15 Participants
9 Female, 7 Male

Age range 25-65
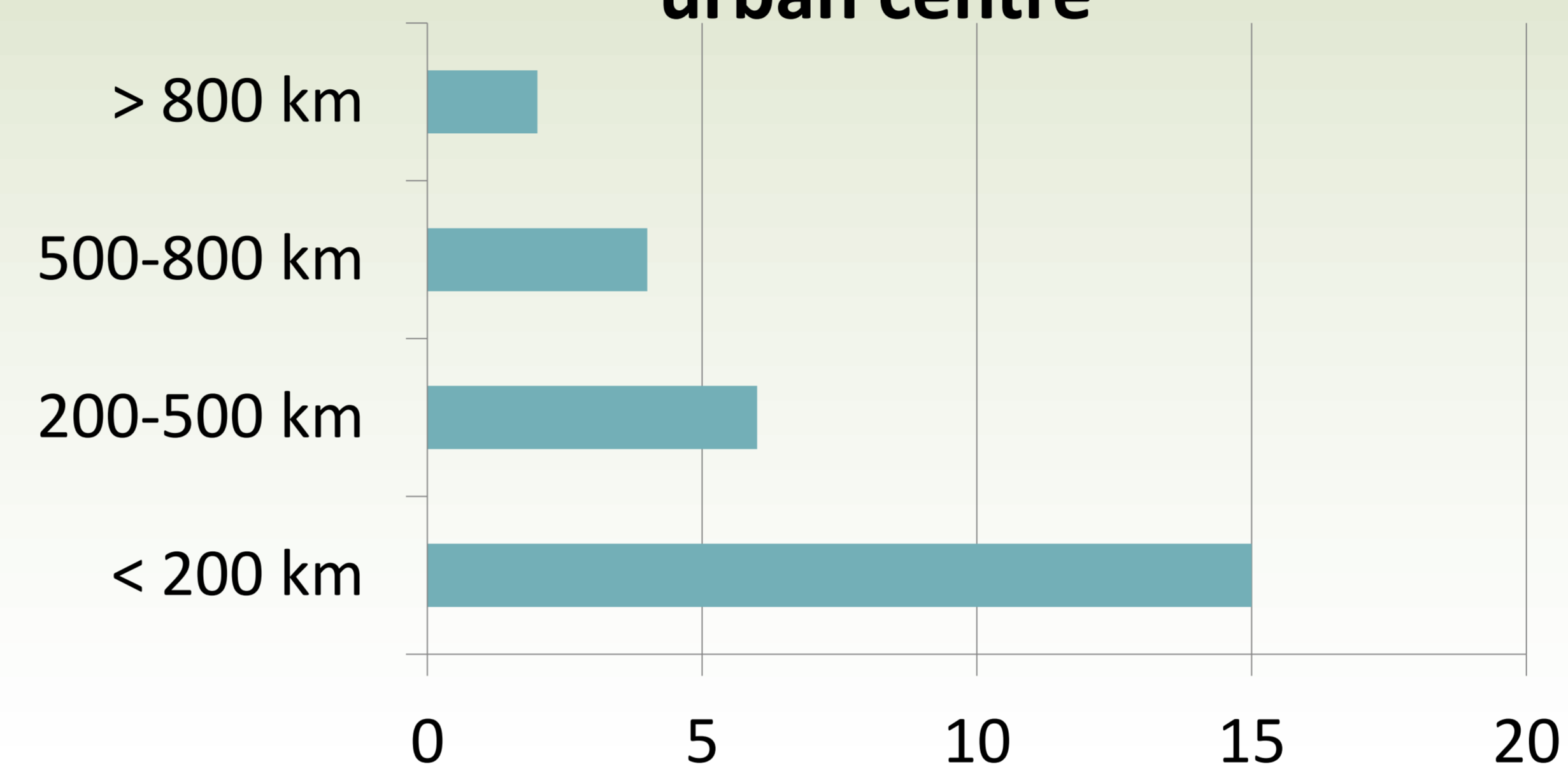Located in areas of south central, western, and northern Manitoba

Canadian Broadband Availability

Rural — 86%
Urban — 100%
North — 60%

■ % Broadband Availability

(axis: 0%, 50%, 100%, 150%)

[the] Biggest frequency of contact with producers, farmers, is during seeding, which historically, is no, but they all have auto steering,[...] I'll get dozens of texts every day from guys in the field. – P4

Participants with rural/remote experience in given distances from urban centre

> 800 km
500-800 km
200-500 km
< 200 km

(axis: 0, 5, 10, 15, 20)

Service Type	Availability
Dial Up	Anywhere with a phone line
DSL	Select towns
Cellular 4G 'Stick' (2 ISP)	Relative to tower locations, Participants indicate 4G does not reach all locations
Cable	Select towns
Satellite	Relatively universal but weather impedes access
WiMax / radio frequencies	Mapped Tower locations indicate service areas, site survey required as topography impedes access

Where Networked Technology Fits

- In-Situ workstations
- Distributed work groups
- Health and safety

We had the first case of H1N1 in a confined camp [...] If it wasn't for email… - P6

Frustrations and Coping

- Lack of availability
- Instability
- Inability to use multimedia
- Unsustainable coping strategies

'cause [government officers] are done at 4 and I'm not done until 10 or so and when they send forms over the line, online it's a lot easier too – P1(2)

I generally had to drive 6 miles to get any service at all. - P6

As soon as you click [the video] to stop, it started the thing all over again. [...] you get a couple seconds at a time. – P3

One of our greatest difficulties is reaching the people, [and] getting the message to them. Many aboriginal communities [are] without cell phone service, without internet service, many homes do not have phones, they don't have running water, so to expect them to have phones or that sort of thing makes it difficult. – P6

You've got to do your online banking on the sunny days – P5

Implications for Design

- Look at the larger system
- App awareness: GPS and connectivity maps
- Environment consideration in testing