

The new paradigm in telehealth – Keeping Information Technology Video- conferencing systems simple

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Acknowledgement of Country:



Photo thanks to
Broadband for the Bush
and Ali Mills



Team Members:

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- Gotha Kathy Guthadjaka, Senior Research Fellow and Elder on Country
- Marianne St Clair, NI, CDU
- eMerge IT
- Telstra Health



Laynhapuy Telehealth Project:

- CDU – Collaboration Grant \$50k
- NTG: Regional Economic and Infrastructure Fund \$400k – Pilot & Demonstration
- Telstra Health \$50k
- Laynhapuy Homelands – vehicles, accommodation, staff time
- eMerge – Katherine
- Aboriginal Medical Services Alliance NT Aboriginal Corporation



NT Context:

- 32% population Indigenous
- 79% live in remote communities (ABS, 2011)
- > 100 remote clinics
- Many of these have poor access to internet
- >30 communities with >100 people – no internet! (NTG)
- NTG & Telstra – collaborative program eg Timber Creek => ADSL, Bulman 4G
- NTG invested in National Telehealth Connection Service (NTCS)



Challenges:

- Remoteness
- Unreliable telecommunications – fixed line comms (microwave phone)
- Unreliable power – typically generators which produce voltage variability and outages
- Dust
- High Temperature and Humidity
- Lack of adequate broadband
- Clinic staff turnover
- The need to diagnose by phone
- The unexpected!



The unexpected!



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Very Remote.





**Roads conditions
can vary substantially**





**Wet Season
can create
problems due to
flooding and
cyclone damage.**



Country from the air.



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Once the wet season is in full swing the only access is via chartered plane.



**Avoid parking in
puddles.**



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Initial site assessment.



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Logistics are an issue.



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Bulky sensitive satellite equipment.



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Installed mining grade satellite connectivity – needed reliable and good quality internet for telehealth.

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Network and video conference system

Installed:

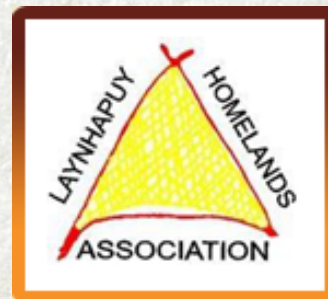
Video codec
Secure gateway
Satellite modem
Wireless access point
Network Switch
UPS
Computer for remote monitoring





Extensive remote support provided by project team.

Reliable high grade internet provided the ability to access other on-line digital health tools eg local shared health record and other on-line health resources.





By product:

Practical solution developed
That was fit-for-purpose –
Facetime!

John Kelly assessing a
hand injury using
Facetime:
Fast initiation of VC
close up photography &
video for diagnosis

Facetime, Skype and other
main stream VC tools now
use AES encryption to create
a secure communications
environment.



**Specific telehealth diagnosis can
be done with very simple tools!**





Use both Telehealth VC system and Facetime in tandem

John Kelly using video conferencing equipment to share images and videos with patients and staff in the Laynhapuy Homelands to address diagnostic and treatment issues (simulated).

Often Facetime is used to get close-ups of wounds, rashes, sore eyes and other issues.

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Broadband for the Bush Alliance (B4BA) Alliance of organisations seeking to advance the digital capacity and capability of regional, rural and remote Australians. Each year convene:

- Indigenous Focus Day
- Annual Forum
- Telehealth Workshop

Recommendations:

1. Increase Medicare item numbers for telehealth including GP and allied health
2. % PATS savings returned to Community Health Clinics to support telehealth

ACCAN (Australian Consumer Communications Action Network) funded National survey.

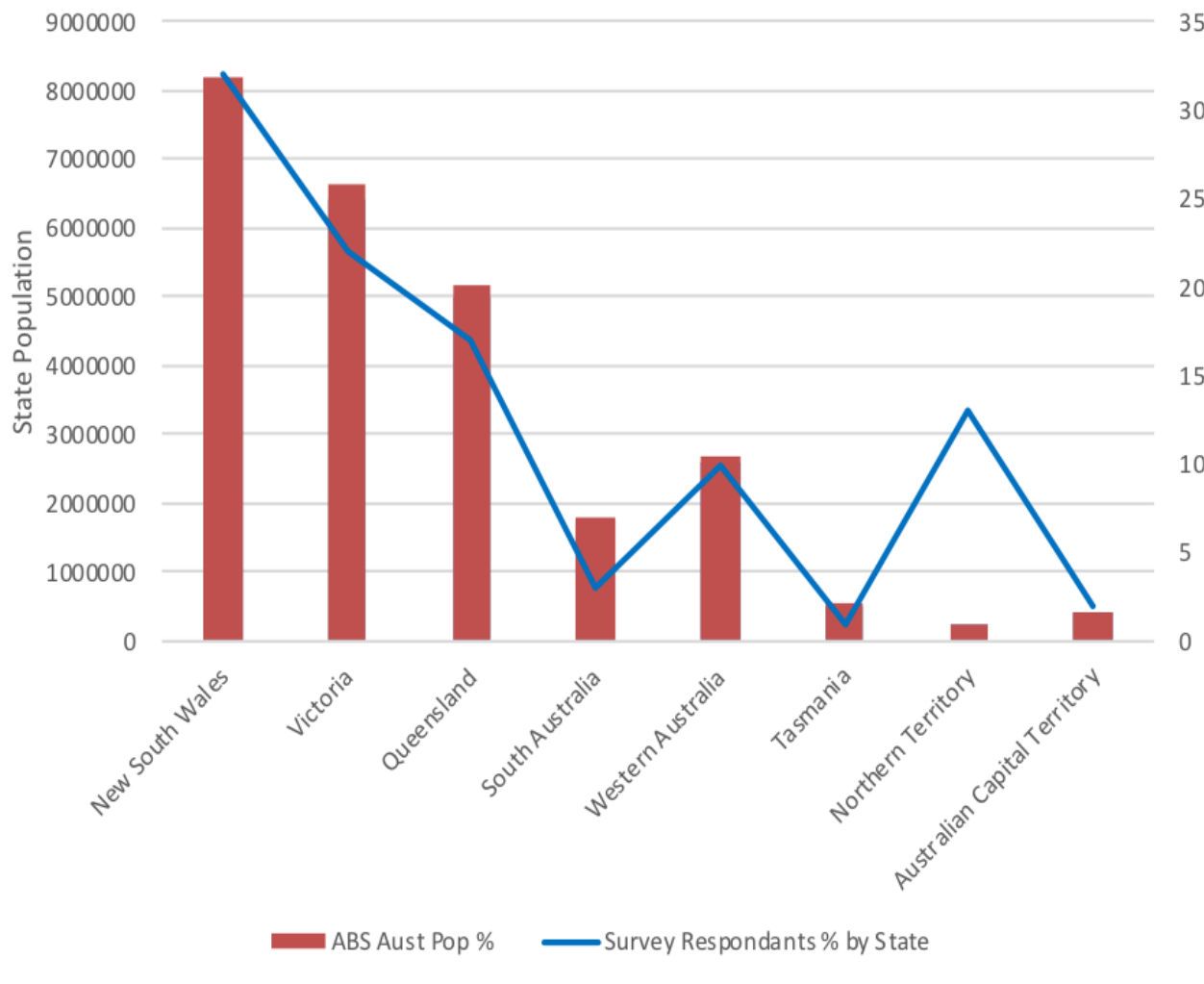
B4BA National Survey (on B4BA Website):

<https://www.surveymonkey.com/r/WBSVD6G>

Qualitative and quantitative data and analysis on consumers' experiences and expectations of internet, telecommunications and telehealth.

28 Questions - 10 questions specific to Telehealth (current n = 306)



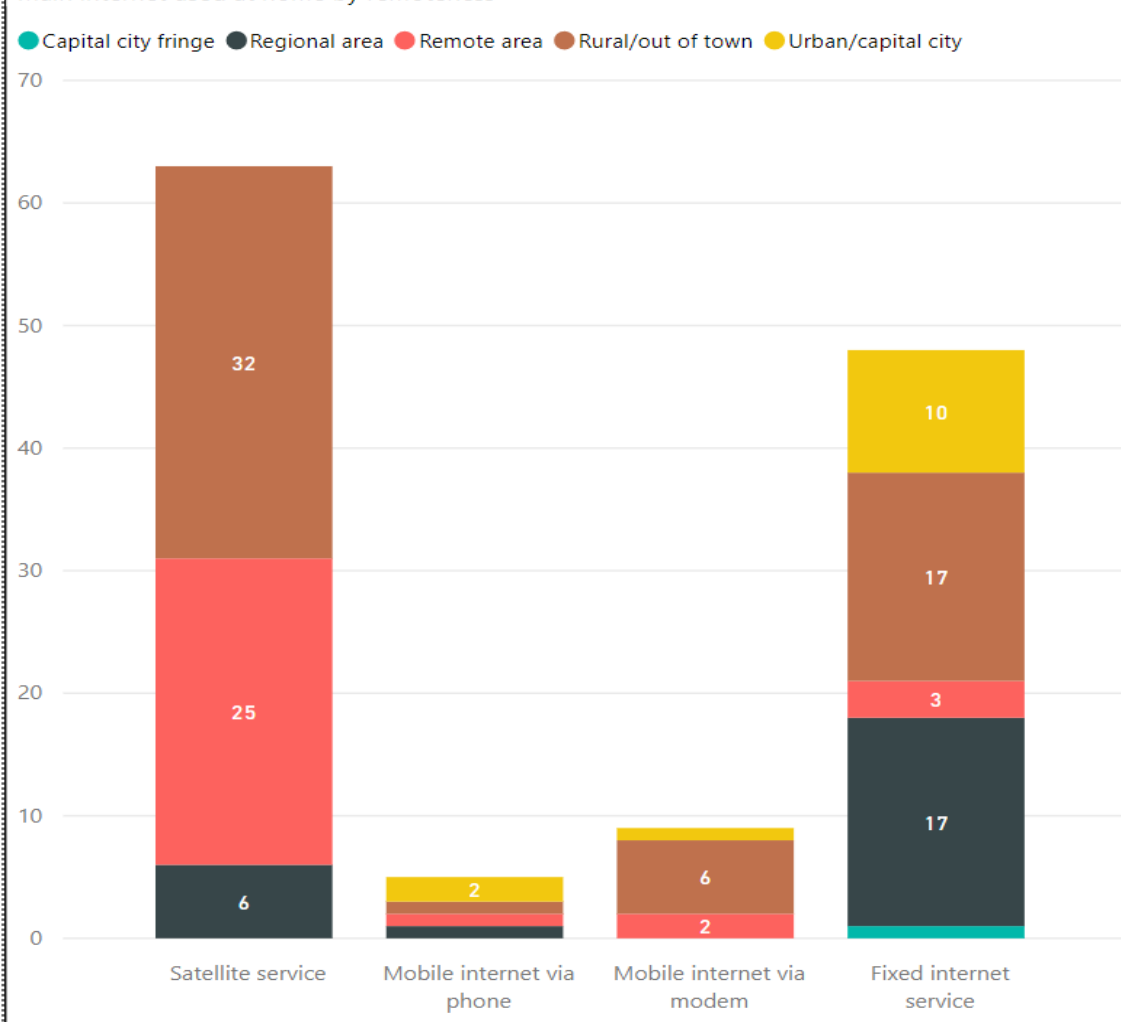


Distribution of respondents compared to Australian Population

B4BA originated NT, many B4BA Members in NT

Bulk respondents - RRR

Main internet used at home by remoteness



Research outcomes:

1. Successful implementation of telehealth using satellite
2. Survey demonstrated bulk of RRR use satellite (mostly NBN)
3. Survey respondents:
 - Knew about telehealth 75%
 - Have used telehealth 25%
 - Telehealth should be made available to them 90%
 - Telehealth GP consults should be billable to Medicare 98%
 - Used a diverse range of video conferencing software.



Community Driven Approach

In discussion with other Very remote communities, NBN and other partners to expand access to telehealth



Future research questions:

1. Can NBN satellite be successfully used for telehealth?
2. Can affordable and reliable diagnostic smart tools (cameras, sensors) be developed for small, remote communities?
3. Can solar power improve telehealth reliability?
4. Can simple solutions be developed for secure messaging using existing email infrastructure?
5. How do telehealth consultations between primary health care providers and specialists improve health outcomes for remote patients?
6. How can we empower patients to create polite demand for telehealth access?
7. Can real jobs be funded on community sustainably by re-directing existing funding?
8. What support mechanisms are needed to maintain workforce sustainability?
9. What is the unmet demand for health services in the bush?



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ACCAN Survey 2016 <http://www.accan.org.au/news-items/media-releases/1160-broadband-speeds-and-performanceleaving-consumers-disappointed>

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Questions?

Comments?

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- Suggestions?

● Thank you!

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