Use of translation apps and websites in the health care setting

Results of a study across five NSW Local Health Districts

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The context

- 2017 survey of 698 staff in three NSW Local Health Districts/Specialty Networks found 18% had used a translation app.

Anecdotal evidence of use:
- clinical conversations between health staff and patients
- preparation of translated resources for clinical encounters, e.g. patient letters or surgical instructions
- preparation of translated general health education information for patients and community
- enhancement of health care-related websites

NSW Health policy context

- The NSW Health Policy Directive (PD2017_044) *Interpreters - Standard Procedures for Working with Health Care Interpreters* states that health organisations and staff should not use apps or other machine translation services to translate any clinical or official health information as evidence indicates they are not sufficiently accurate.

- Sets out the guidelines for the use of professional interpreters

- Health care interpreters are to be engaged in all health care situations where communication is essential for patients/clients who are not fluent in English, including people who are Deaf.

  - Where important decisions need to be made/consent
  - When patients are being informed of their rights
  - Accessing information to help with decision making.

An example

English Text	Nepalese Back Translation	Japanese Back Translation
Before your colonoscopy you will need to drink some fluid which will make you open your bowels and clean them of faeces so we can clearly see the lining of your bowel	Before your colonoscopy you should drink some fluids that open up your intestines and cleanse the stool so that we can clearly see the face of your eye.	Before colonoscopy, you need to drink a liquid that opens the bowel and cleans the stool
Greek Back Translation	**Somali Back Translation**	**Korean Back Translation**
before your colonoscopy, you will need to drink some fluid that will open your bowels and cleanse them with feces so that we can see clearly your lining	Before your colonoscopy you will need to drink any liquids that will make you open your bowels and clear the bowels so that we can clearly see your gallbladder.	Before colonoscopy, you need to drink a little liquid to open the stool and clean the stool.

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Research on translation apps

- Most research has concentrated on the development and accuracy of machine translation (Birch et al 2016, Koponen et al 2016, Patil and Davies 2014)

- Some on types of apps (Panayiotou et al 2019)

- Less on use within health care settings (Anazawa et al 2013, Michael et al 2013)

Our research question

- What is the nature and extent of translation app and website use in state funded health care services in NSW?

  - Under what circumstances is it used
  - Is machine translation being initiated by consumers, carers or health professionals

Survey questions

- 37 questions

  - Section 1- examined if people were familiar with translation apps and websites, their reliability, accuracy and if they used them.

  - Section2 – examined use of professional health care interpreters

  - Section 3 – examined demographics

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- Survey sample
  - 1,558 respondents
  - 5 Local Health Districts
  - 80.3% female, 18.2% male
  - 70.7% clinical staff, 29.3% non-clinical
  - 2.0% response rate

- Interview sample
  - 24 participants
  - 5 Local Health Districts
  - Range of health professionals, managers and senior managers/policy roles

Findings

33.6% had used a translation app or website in a clinical encounter (n=516)

Of these:

- 75.4% had used a translation app within the past 12 months (57.4% in past 3 months)

- Clinicians initiated the use of a translation app in two-thirds of their most recent experience (66.8%)

- 72.8% has most recently used an app between 8:30am and 5pm

- 42.6% used an app after a request for a professional interpreter had been made.

App users

- **Younger**
  44.2% aged under 40 had used translation apps, compared to 28.3% aged 40+.
  $\chi(1)=40.181$, $p<0.001$

- **Male**
  43.0% of males had used translation apps, compared to 28.3% of people who identified as female. N.B. sample 80% female, $\chi(1)=10.676$, $p=0.001$
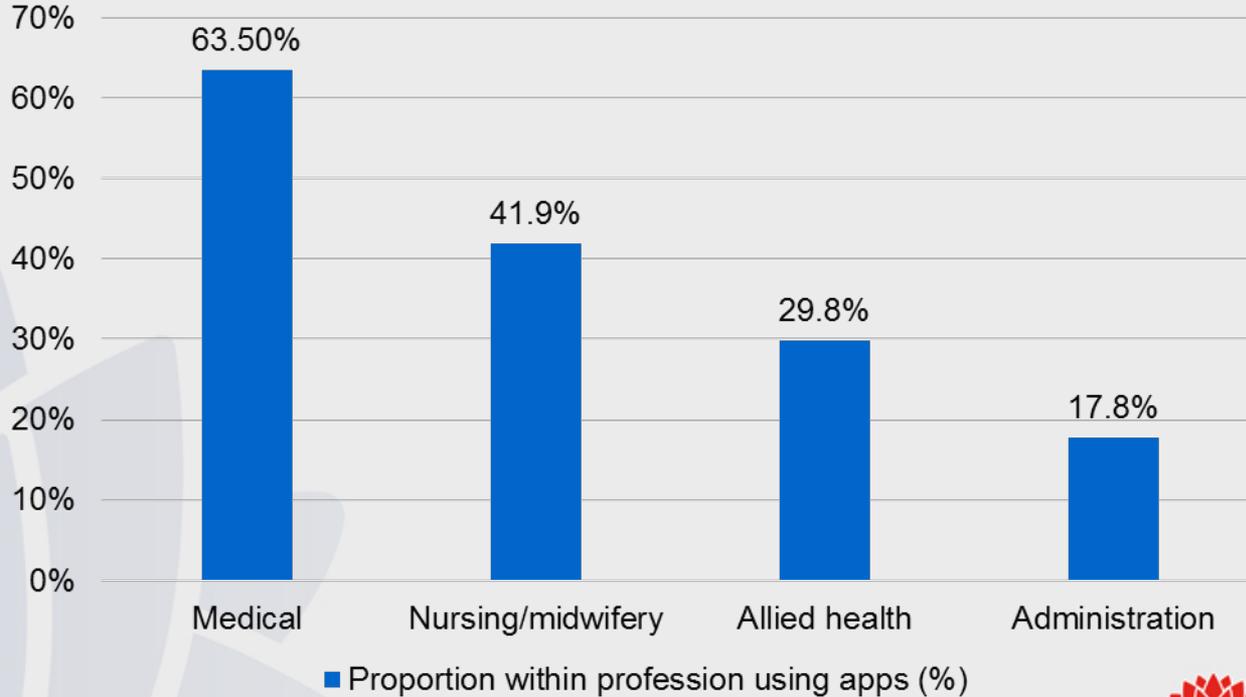
- **Less experienced**
  39.6% who had worked for NSW Health for less 10 years had used translation apps, compared to 30.1% who had worked for 10+ years. $\chi(1)=14.759$, $p<0.001$
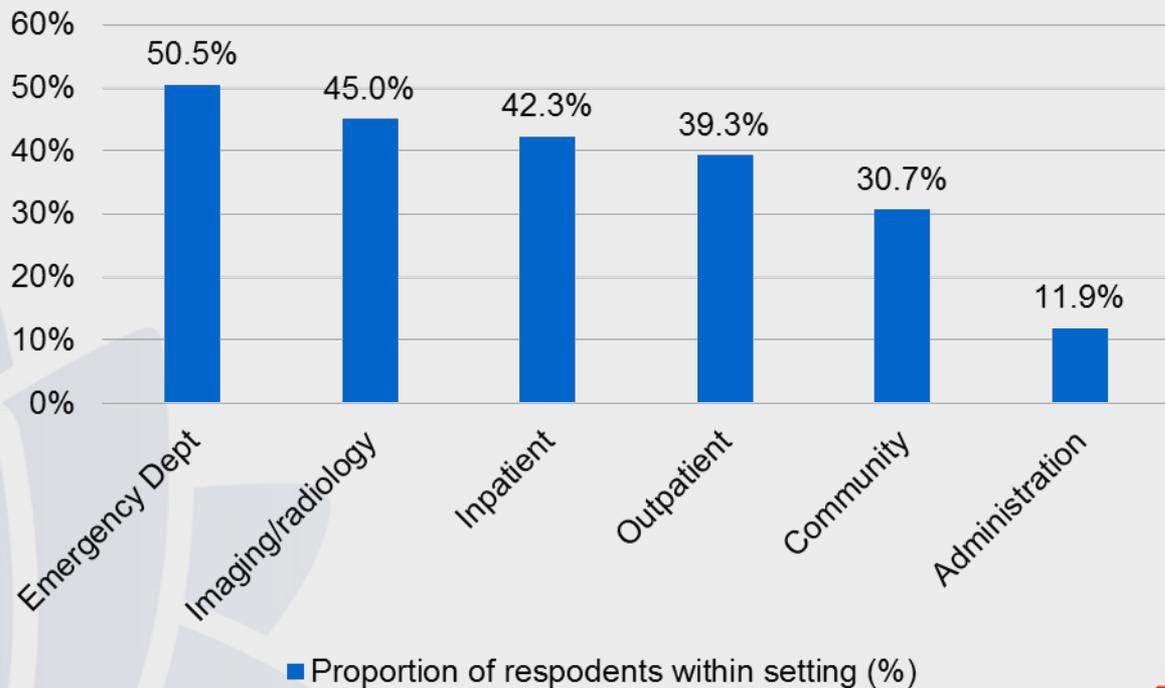
- **Clinical staff**
  41.8% of clinical staff had used translation apps, compared to 16.4% of non-clinical staff. $\chi(1)=87.062$, $p<0.001$

App users by setting

Perceptions of app use

- 93.4% rated the translation app as very useful or useful.

- 57.8% rated the risk of misinterpretation as low or none.

- 33.5% rated the translation as accurate or very accurate.

Benefit of app use (more than one option possible)	Percentage (Total n=516)
Avoiding delay in accessing interpreter	54.3%
Familiarity/convenience of the use of app	39.5%
Enhanced rapport between provider and patients	38.8%
No financial cost involved	34.5%

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Summary

- Use appears to be widespread across NSW Health; in most cases clinicians are initiating use.

- Use appears be higher amongst younger and newer clinicians, in particular amongst medical and nursing/midwifery staff.

- Use may be growing.
  - 2017 survey 18% reported app use. For the 301 respondents from a similar (but not exactly the same) sample area in this survey, 38% reported app use.

- There appears to be fairly high levels of awareness of, and experience with, interpreter services.

- Lack of access to interpreter services (face to face and telephone) does not appear to be a factor determining app use, however timeliness may be a factor.

- Seeming dissonance or contradiction about the perception that app translation is not accurate, but that the risks of this are low.

- Low response rate

- Potential for self-censorship, actual rates of use may be higher.

What remains unknown?

- Is there variability in adoption in other settings?

- What are health consumers, family and carers' experiences and perceptions?

- Is a more integrated research approach required?

  (Intersection of data science, communication and linguistics, psychology, and health and social service delivery)

Researchers

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Collaborators

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