Use of translation apps and websites in health care settings
Results of a survey across five NSW Local Health Districts

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3. Priority Populations Unit, Primary, Integrated and Community Health, South Eastern
   Sydney Local Health District, Sydney
The issue

Use of translation apps and websites in health settings appears to be increasing.

Machine translation may be inaccurate for health information, and is markedly less accurate in some languages.
The issue

Use may include translating:
• during clinical interactions
• written resources
• general health information
• website information.

It is unclear who’s initiating use and in what circumstances.
Before your colonoscopy you will need to drink some fluid which will make you open your bowels and clear them of faeces so we can clearly see the lining of your bowel.

You need to drink some fluids before your colopyopause that you will open your eyes and remove from stool so that we can see your face face.
The context

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

Little has examined the nature and extent of use within health care settings. (Anazawa et al 2013, Michael et al 2013)

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

Updated Policy Directive in December 2017. (NSW Health 2017)

Research question

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

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

App users

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.
Findings

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
Findings
App users by profession

- Medical: 63.50%
- Nursing/midwifery: 41.9%
- Allied health: 29.8%
- Administration: 17.8%

χ(10)=151.935, p<0.001
Findings
App users by setting

<table>
<thead>
<tr>
<th>Setting</th>
<th>Proportion of respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Dept</td>
<td>50.5%</td>
</tr>
<tr>
<td>Imaging/radiology</td>
<td>45.0%</td>
</tr>
<tr>
<td>Inpatient</td>
<td>42.3%</td>
</tr>
<tr>
<td>Outpatient</td>
<td>39.3%</td>
</tr>
<tr>
<td>Community</td>
<td>30.7%</td>
</tr>
<tr>
<td>Administration</td>
<td>11.9%</td>
</tr>
</tbody>
</table>

$\chi(10)=89.588, p<0.001$
Findings
Perceptions of app use

93.4% rated the translation app as 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.
Discussion

Use appears to be widespread in state funded health care services in NSW.

In most cases clinicians are initiating use.

Use may be growing. In the 2017 survey 18% reported app use. For the 301 respondents from a similar (but not exactly the same) sample area in this survey, 38.2% reported app use.

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

Limitations

Low response rate.

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

The is a need to investigate the use of translation apps in other settings, including primary health care, social care and residential aged care.

Formulating feasible and realistic policy responses and guidance.

Next steps

Qualitative study currently underway.

Investigating standard phrase apps with approved translations, as an alternative to machine translation.

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Acknowledgements

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Collaborators
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Thank you

Ben Harris-Roxas

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These slides are available at
https://www.slideshare.net/benharrisroxas
## Additional information

### Survey sample

<table>
<thead>
<tr>
<th>Profession</th>
<th>Percentage (Total n=1558)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing/midwifery</td>
<td>34.9%</td>
</tr>
<tr>
<td>Allied health</td>
<td>21.6%</td>
</tr>
<tr>
<td>Administration</td>
<td>20.3%</td>
</tr>
<tr>
<td>Medical</td>
<td>12.4%</td>
</tr>
<tr>
<td>Oral health</td>
<td>1.5%</td>
</tr>
<tr>
<td>Other</td>
<td>9.3%</td>
</tr>
<tr>
<td>incl planning, interpreters, IT, health education/promotion, pharmacy</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Setting</th>
<th>Percentage (Total n=1558)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient</td>
<td>35.0%</td>
</tr>
<tr>
<td>Community</td>
<td>22.9%</td>
</tr>
<tr>
<td>Outpatient</td>
<td>15.3%</td>
</tr>
<tr>
<td>Administration</td>
<td>8.6%</td>
</tr>
<tr>
<td>Emergency dept</td>
<td>6.8%</td>
</tr>
<tr>
<td>Other</td>
<td>7.6%</td>
</tr>
<tr>
<td>incl research, education, imaging, oral health, pathology</td>
<td></td>
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</tbody>
</table>
# Additional information

## App use

<table>
<thead>
<tr>
<th>Stated need (more than one option possible)</th>
<th>Percentage (Total n=516)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient/carer conveying information to respondent</td>
<td>48.3%</td>
</tr>
<tr>
<td>Respondent conveying information to patient/carer</td>
<td>46.9%</td>
</tr>
<tr>
<td>Patient/carer wanted to ask respondent question</td>
<td>38.0%</td>
</tr>
<tr>
<td>Respondent conveyed administrative information to patient/carer</td>
<td>25.6%</td>
</tr>
</tbody>
</table>
### Additional information

#### Perceptions of benefits

<table>
<thead>
<tr>
<th>Benefit of app use (more than one option possible)</th>
<th>Percentage (Total n=516)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoiding delay in accessing interpreter</td>
<td>54.3%</td>
</tr>
<tr>
<td>Familiarity/convenience of the use of app</td>
<td>39.5%</td>
</tr>
<tr>
<td>Enhanced rapport between provider and patients</td>
<td>38.8%</td>
</tr>
<tr>
<td>No financial cost involved</td>
<td>34.5%</td>
</tr>
</tbody>
</table>
Additional information
Interpreter use

76.9% (n=991) had used a professional interpreter within the past 2 years.

480 respondents had used a professional interpreter within the past 3 months (N.B. a smaller number of respondents answered this question, n=707 in total)

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

Lack of *any* access to interpreter services does not appear to be a factor determining app use, however timeliness may be a factor.
Additional information
Interpreter and app use

Most recent occasion of app use:

- 42.6% after a request for a professional interpreter had been made
- 2.6% after an interpreter had been requested and in an urgent situation
- 2.8% after an interpreter had been requested and when a face-to-face interpreter was not available
- 3.3% after an interpreter had been requested and when a phone interpreter was not available
- 1.7% after an interpreter had been requested and when it was not appropriate to use a phone interpreter