

# Using technology to evaluate technology



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eHealth Evaluation Officer

# WHAT IS NPS?

- ▶ NPS MedicineWise is a not-for-profit organisation funded by DoHA.
- ▶ Enabling people to make better decisions about medicines and medical tests, leading to better health and economic outcomes.
- ▶ NPS offer educational and awareness raising programs for health professionals and consumers across Australia.





# WHAT IS E-HEALTH?

- ▶ The use of information and communication technology to support health care delivery.

See: Silber D. (2004) The case for eHealth. June 26.

[http://europa.eu.int/information\\_society/eeurope/ehealth/conference/2003/doc/the\\_case\\_for\\_eHealth.pdf](http://europa.eu.int/information_society/eeurope/ehealth/conference/2003/doc/the_case_for_eHealth.pdf).



# WHAT IS MY ROLE?

eHealth Evaluation Officer:

- ▶ Design and implement evaluation protocols for eHealth activities and software products.
- ▶ Audiences include consumers, GPs, pharmacists, nurses, specialists.
- ▶ eHealth tools and services to date include:
  - Webinars
  - iPhone apps
  - Web tools
  - Websites
  - E-audits
  - Online education modules.



# ANTIBIOTICS REMINDER APP



An app to help consumers to set alerts that remind them to take their medicines, track whether they've taken all their doses, record (and share) how they feel in a recovery diary.

- ▶ Download data
- ▶ iTunes feedback
- ▶ Planning to use Google Analytics for apps
- ▶ Feedback mechanism (survey) built into the app (used some SUS questions see: Sauro, J (2011) **Measuring Usability with the System Usability Scale (SUS)** <http://www.measuringusability.com/sus.php>)

## More

Help & About



Information about Antibiotics



Become a fan of NPS



Give your Feedback



Antibiotic

Tracking

Recovery

Alarms



## Antibiotic Reminder feedback

surveys.nps.org.au/s3/a/

Google

## Antibiotic Reminder feedback

This short survey will take you no longer than 5 minutes to complete.

1. Are you male or female?

- Male
- Female

2. What is your age?

- Under 18

# MEDICINES LIST APP



An app for consumers to record their medicines, set reminders for when to take medicines, take to medical appointments on phone or print a copy, have it in case of emergency.

- ▶ Adding survey to the next version
- ▶ Download data
- ▶ iTunes feedback
- ▶ Retrospective evaluation:
  - ▶ Online focus groups



# ONLINE FOCUS GROUP

- ▶ Use a mainstream chat software e.g. Skype
- ▶ Participants download the app and use it for 5-7 days
- ▶ All come together online at pre-arranged date and time
- ▶ Two moderators
- ▶ Semi-structured questions
- ▶ Participants type responses – captured and saved for coding and analysis
- ▶ See: Stewart, K and Williams, M (2005) *Researching Online Populations: The Use of Online Focus Groups for Social Research*. *Qualitative Research*, 5 (4). pp. 395-416.







# NPS WEBSITE

Information about medicines, conditions and medical tests. Aim to help individuals make better decisions about their health and medicines, and keep health professionals up to date with the latest evidenced-based information.

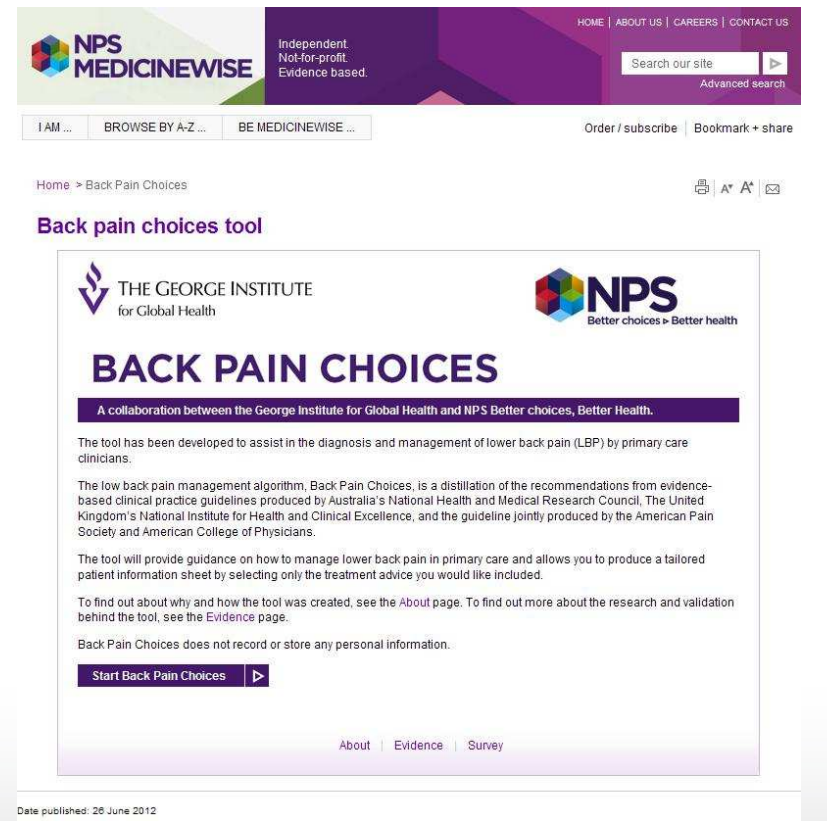
- ▶ Online survey for visitors - with incentive!
- ▶ Survey pop-up - once on page for 3 minutes
- ▶ Usage data from Google Analytics
  - Number of page views
  - Number of unique visits
  - Bounce rate
  - Time spent on the website



# ONLINE TOOLS

The online tool is to assist in the diagnosis and management of lower back pain by primary care clinicians.

- ▶ Expert review
- ▶ Prototype testing
- ▶ Usage data from Google Analytics
- ▶ Survey at the end of the tool
- ▶ Telephone interviews with user



The screenshot displays the NPS Medicinewise website interface. At the top, the NPS Medicinewise logo is on the left, with the tagline 'Independent. Not-for-profit. Evidence based.' to its right. A search bar is located on the right side of the header. Below the header, there are navigation links: 'I AM ...', 'BROWSE BY A-Z ...', and 'BE MEDICINEWISE ...'. The main content area features the title 'Back pain choices tool' and a sub-header 'A collaboration between the George Institute for Global Health and NPS Better choices, Better Health.' The text describes the tool's purpose: 'The tool has been developed to assist in the diagnosis and management of lower back pain (LBP) by primary care clinicians.' It also mentions that the tool is based on evidence-based clinical practice guidelines from Australia, the UK, and the US. A 'Start Back Pain Choices' button is prominently displayed. At the bottom of the page, there are links for 'About', 'Evidence', and 'Survey', and a footer indicating the date published: '26 June 2012'.



# OTHER METHODS

- ▶ Individual online focus group (no moderator)

- ▶ Heat mapping

Spakov, O & Miniotas, D. (2007) Visualization of Eye Gaze Data using Heat Maps. Electric and Electronic Engineering

2(74).[http://www.ktu.lt/lt/mokslas/zurnalai/elektros\\_z/z74/12\\_T115\\_Spakov\\_Miniotas\\_E&E-2007a.pdf](http://www.ktu.lt/lt/mokslas/zurnalai/elektros_z/z74/12_T115_Spakov_Miniotas_E&E-2007a.pdf)

- ▶ Participant observation / think aloud protocol

Hansen, D. et al. (2003) Adolescents Searching for health information on the Internet: An Observational Study. Jnl of Medical Internet Research 5(4) e25.

<http://www.jmir.org/2003/4/e25/>

- ▶ Screen capture and key stroke capture / system log data

Benbunan-Fich, R. (2001) Using protocol analysis to evaluate the usability of a commercial web site. Information & Management 39(2): 151-163.

<http://www.sciencedirect.com/science/article/pii/S0378720601000854>



# LESSONS LEARNT

1. A mixed methods approach of both qualitative (e.g. ease of use, usefulness, satisfaction, change in behaviour, improvement in knowledge/awareness) and quantitative methods (e.g. how products/systems are performing, take up and use) provides the most useful and informative findings.
2. Longitudinal evaluation important. Evaluate regularly (annually?) to cater for innovation and usability best practice.
3. Where possible, eHealth evaluation should take place over entire life cycle (including design, development and deployment).
4. Consideration of participant incentives. Conducted a study looking at how an incentive affected response. Incentives have the potential to increase response rate without significantly adding to survey costs.

**ANY QUESTIONS?**

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