Novel strategies to improve uptake of vaccines for young people

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neis CRE Centre for Research Excellence in Neisseria disease control

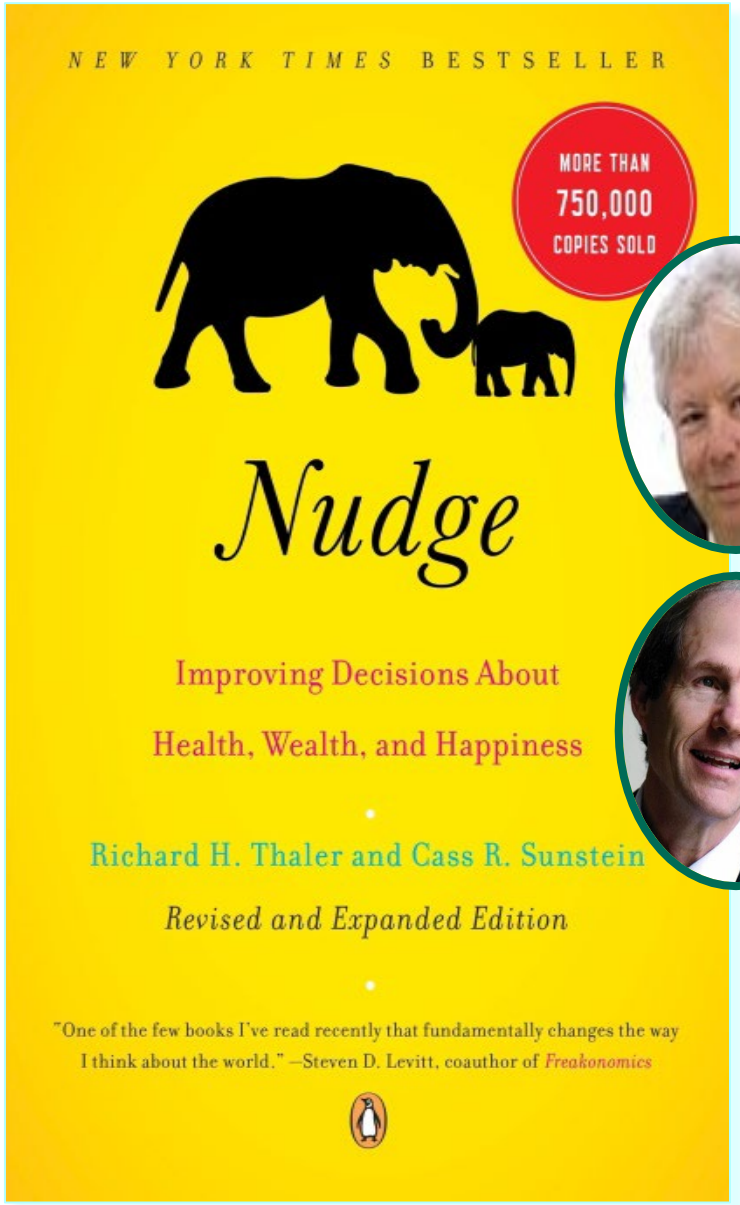
Adelaide University



Improving the effectiveness of immunisation programs

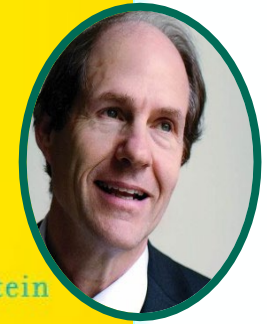
- How do we make it easier for people to get vaccinated?

- How can we encourage higher uptake of vaccines to benefit the individual and the community?





Richard Thaler
Professor of Economics
University of Chicago
Behavioural Insight Team, UK
Cabinet Office



Cass Sunstein
Professor of Law
Harvard University
Regulatory Czar, Obama Administration

Nudge is "any aspect of the choice architecture that ***alters people's behaviour in a predictable way*** without forbidding any options or significantly changing their economic incentives".

Choice architecture is the environments within which people make choices.

Consider this...



Schiphol Airport,
Amsterdam
80% decline
in ‘spillage’

And this...



Lake Shore Drive
Chicago
36% fewer crashes



The 9 general MINDSPACE principles of human behaviour change allow us to influence people



We are heavily influenced by who communicates information to us

Messenger



Our responses to incentives are shaped by predictable mental shortcuts e.g. strongly avoiding losses

Incentives



We are strongly influenced by what others do

Norms



We go with the flow of pre-set options

Defaults



Our attention is drawn to what is novel and what seems relevant to us

Salience



Our acts are often influenced by subconscious cues

Priming



Our emotional associations can powerfully shape our actions

Affect



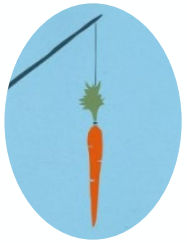
We seek to be consistent with our public promises, and reciprocate acts

Commitment



We act in ways that make us feel better about ourselves

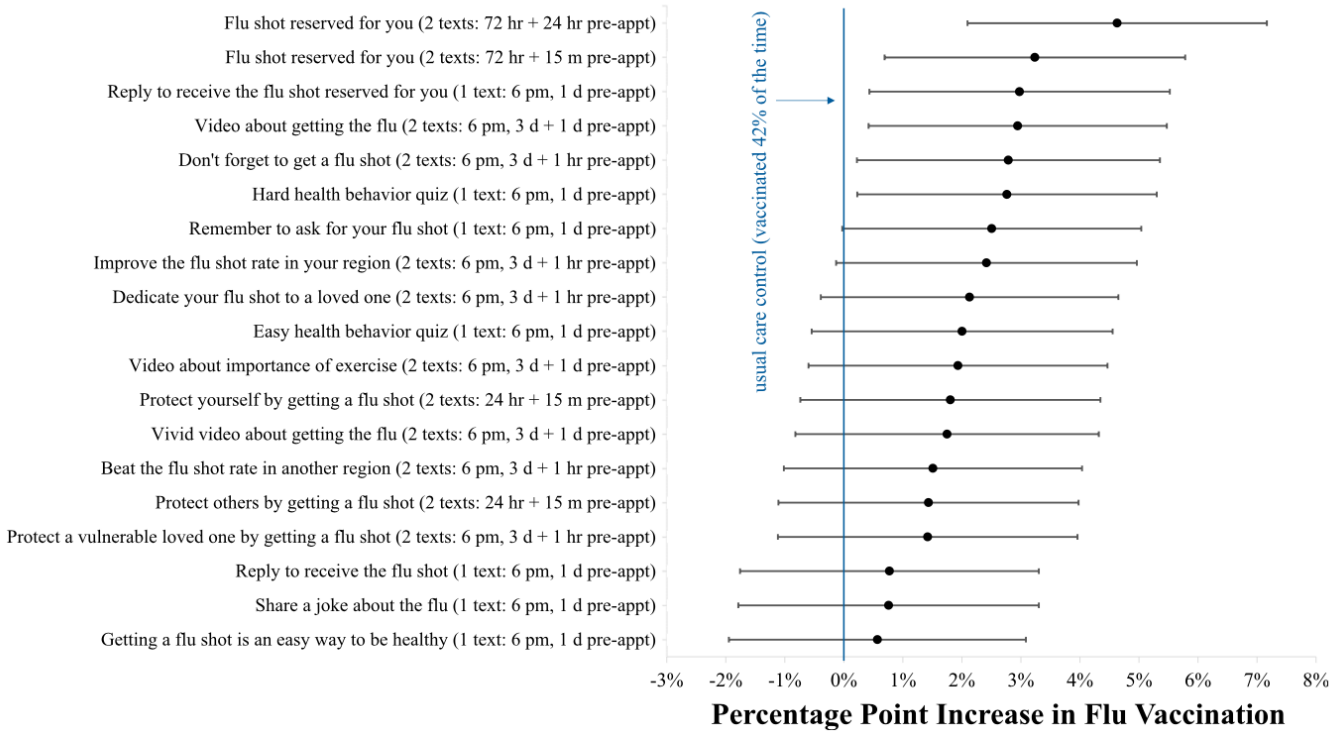
Ego



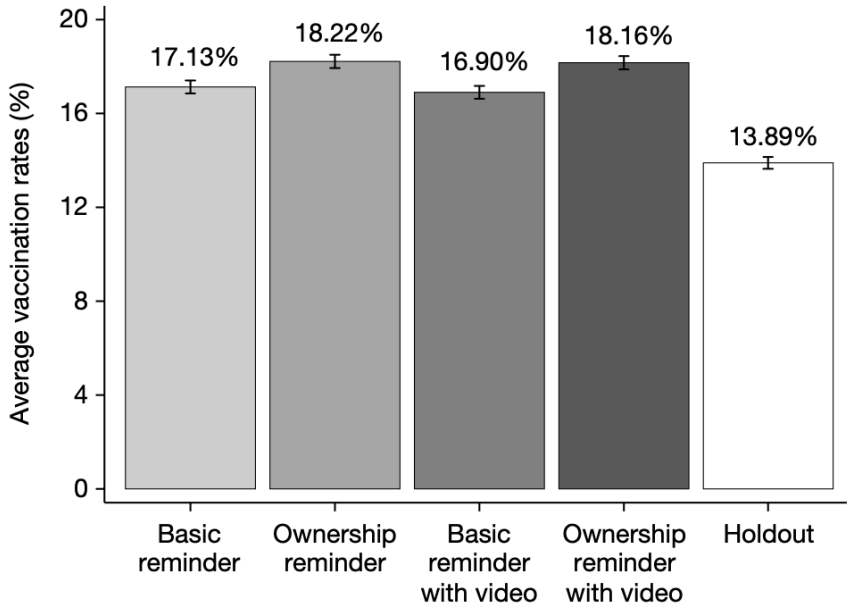
The value of an incentive depends on where we see it from – its reference point

Psychological Ownership nudges increase flu and COVID-19 vaccinations

N=47,306, 19 different text messages



UCLA Health: John Smith, a COVID-19 vaccine has just been made available to you at UCLA Health. Claim your dose today by making a vaccination appointment here: uclahealth.org/schedule vs you can get the COVID vaccine at UCLA health



https://www.pnas.org/content/118/20/e2101165118

Dai et al. Nature 2021:597:404

FluText4U nudge study

Influenza may be serious for children with medical conditions. The Women's and Children's Hospital recommends the influenza vaccine for all medically at-risk children.

[name, lastname] is recommended to receive the influenza vaccine.

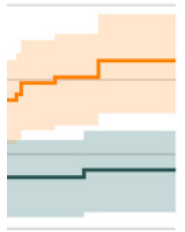
Assess whether a SMS intervention could increase influenza vaccine uptake in children with chronic medical conditions

SMS sent 1 week prior to WCH appointment, 1 week after a

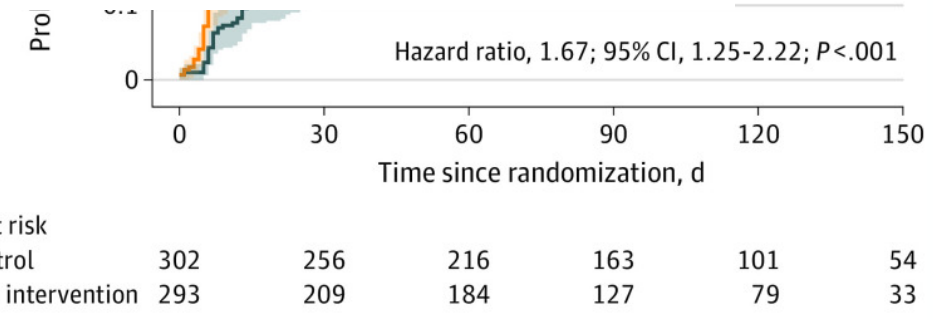
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Table 2a Effect of intervention on receipt of COVID-19 vaccine within 3 months of randomization.

Variable	*Intervention*	*Standard care*	*Odds ratio (95% CI)*	*P-value*	*Risk ratio (95% CI)*	*Absolute risk difference (95% CI)*
COVID-19 vaccine received within 3 months of randomization, *N* (%)	8/554 (1.4)	9/551 (1.6)	0.89 (0.34, 2.35)	.82	0.90 (0.35, 2.29)	−0.17 (−1.61, 1.27)



- Time to vaccine receipt was significantly reduced for FluText-4U participants [aOR=1.67 (95%CI 1.25, 2.22 p<0.001)



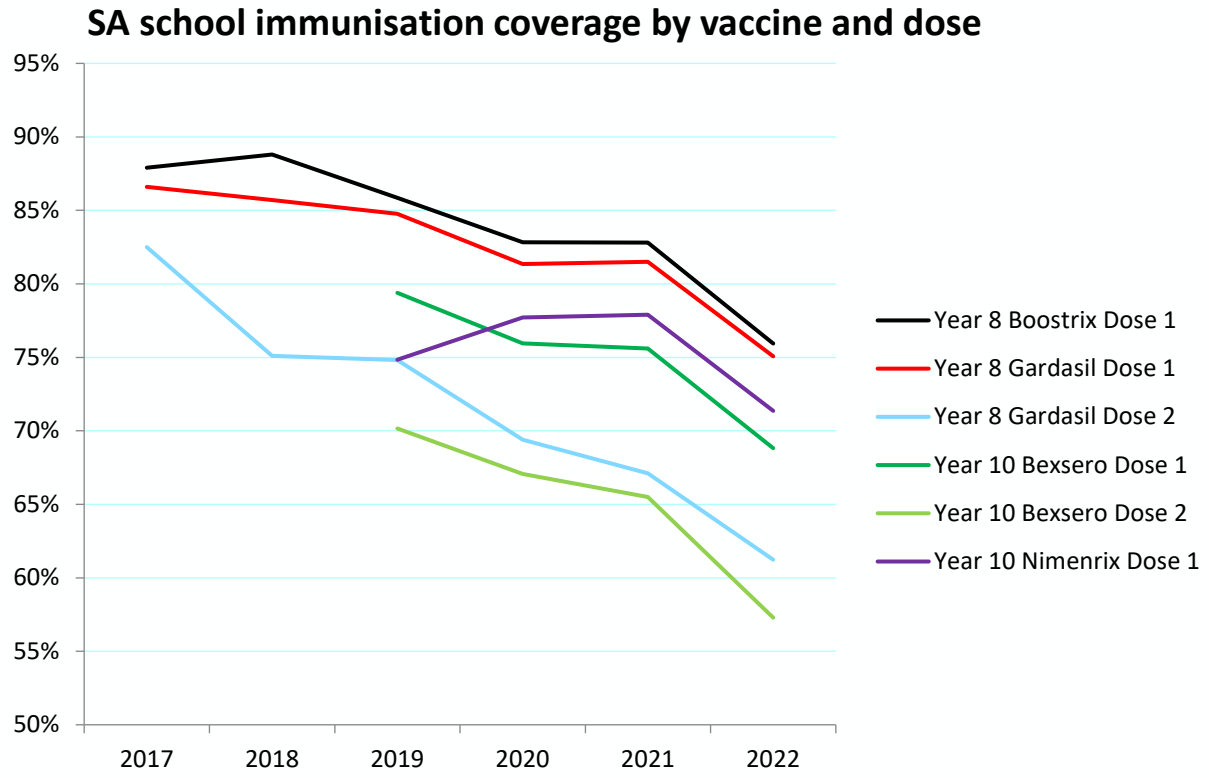
- A greater proportion receiving the flutext-4U were vaccinated during the optimal period (April-June) [48%

No. at risk						
Control	302	256	216	163	101	54
SMS intervention	293	209	184	127	79	33

1. Tuckerman et al JAMA Pediatrics 2022;12;e053838 2. Wang et al. Journal of Public health 2025; pp 1-12

Nudges to increase uptake of vaccines delivered to young people

- Co-design a nudge intervention with students at “low uptake” schools
- Implement the nudge in a cluster randomised controlled trial in schools



Slide courtesy of Noel Lally, Executive Director, CDC, SA Health

Co-designed nudge solutions



✅ Nudgeathon Workshop

✅ Framework: MINDSPACE principles

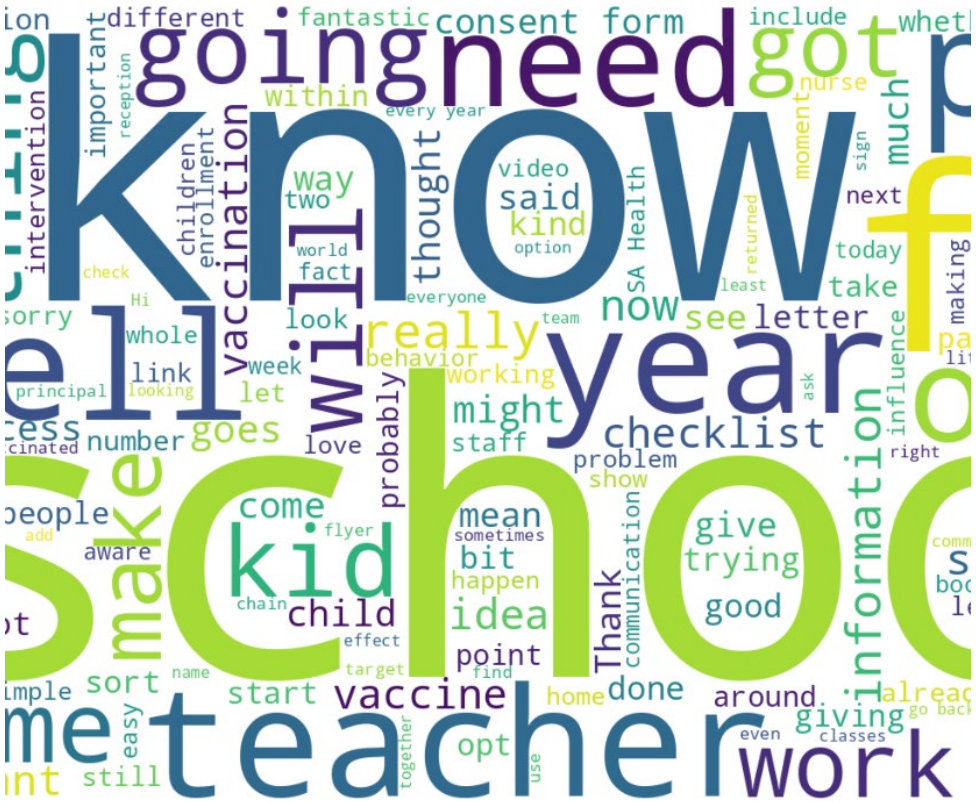
✅ 58 Participants:

- Consumers: Year 7 and 10 students and their parents, representing a range of ethnicities and culturally and linguistically diverse backgrounds.
- Key stakeholders: staff members from SA Health, Department for Education, private vaccination and health service providers, local councils and school
- academia
- psychologist
- graphic designer

✅ Evaluation: APEASE criteria[1] (Affordability, Practicability, Effectiveness/Cost-Effectiveness, Acceptability, Side-Effects/Safety, and Equity)

Michie, S., Atkins, L. & West, R. (2014) The Behaviour Change Wheel: A Guide to Designing Interventions. London: Silverback Publishing.

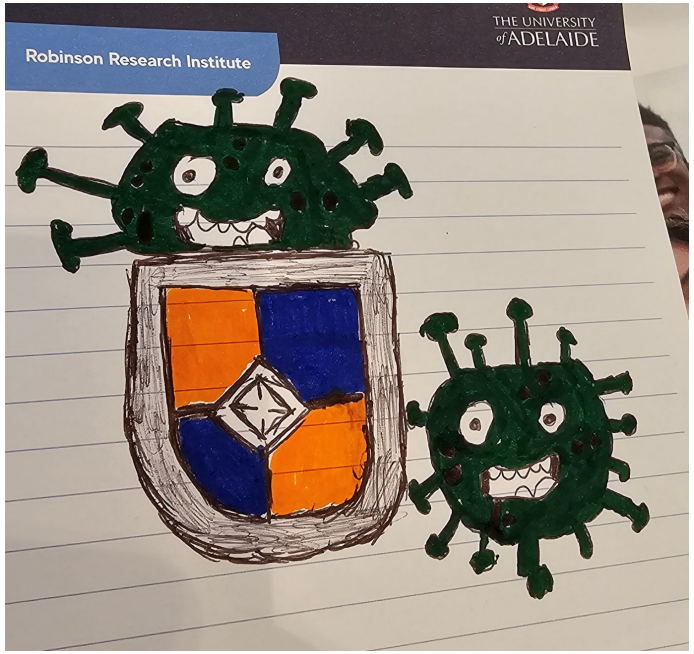
Key Nudgeathon Ideas

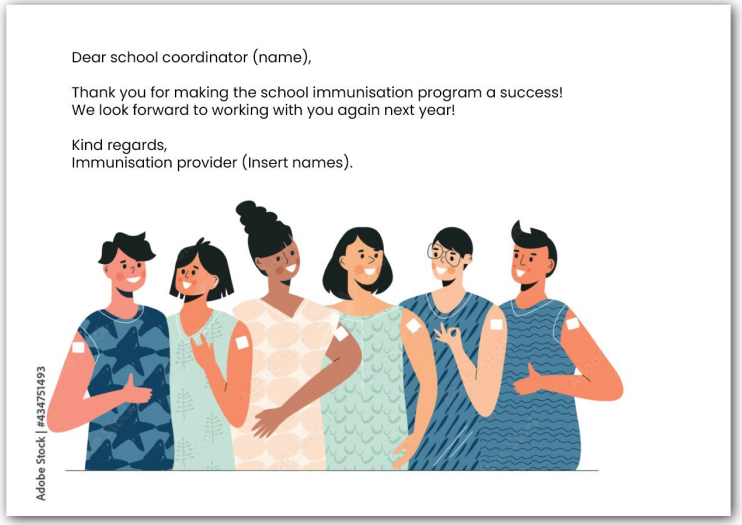


1. Incentives (prizes, pizza)
2. Social norms (school comparisons)
3. Defaults (opt-out consent).
4. Simplification (checklists, form redesign)
5. Education (videos, curriculum)

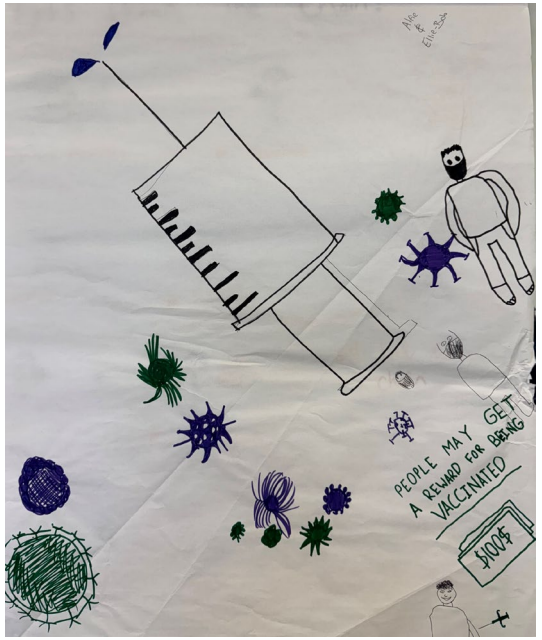
Teacher-Focused Nudges

- Checklist & Commitment:
  - ✓ Teachers receive a letter and checklist, encouraging them to support consent form distribution and collection.
  - ✓ Commitment signing and recognition (e.g. school-wide prize for highest return rate).
- Posters & Reminders:
  - ✓ Visual prompts in staff rooms
  - ✓ SMS/email reminders
- Comparison Data:
  - ✓ Share return rates across schools to stimulate motivation through friendly competition.
- Ego Appeal:
  - ✓ “Thank you” e-cards to acknowledge teacher efforts.

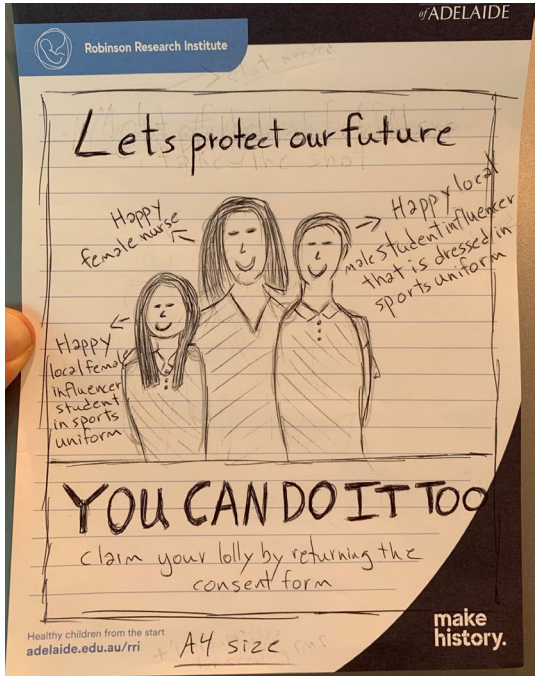




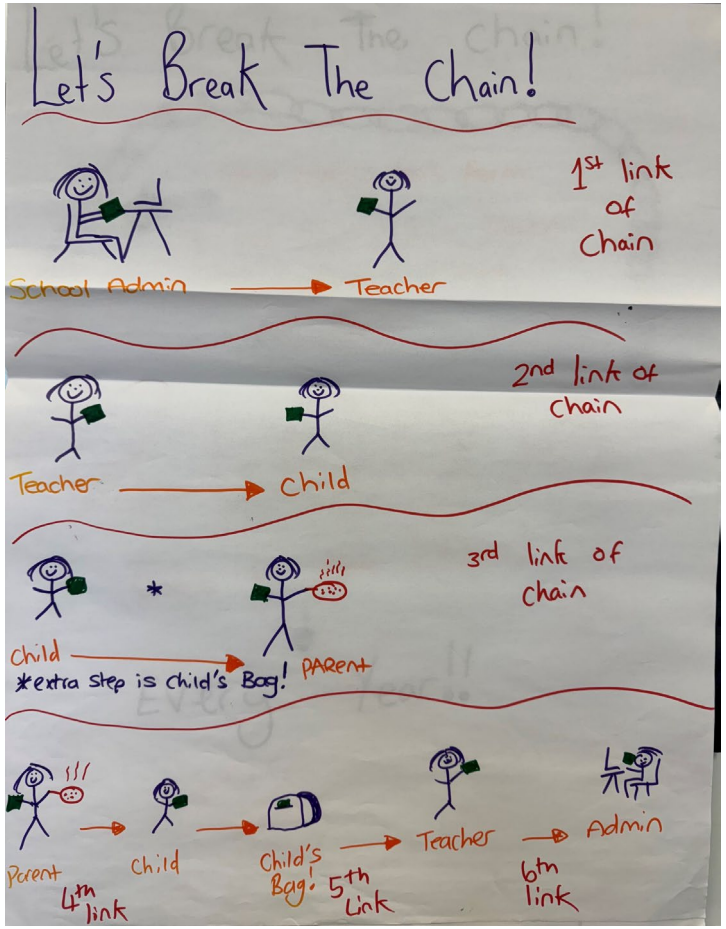
Student-Focused Nudges



- Immunisation Day = Positive Day:
  - ✓ Make vaccination day engaging (casual clothes, games, treats, competitions, etc.)
- Peer Norms & Social Proof:
  - ✓ Showcase videos with peer messengers and highlight group success (e.g. class pizza party if >85% vaccinated)
- Reminders:
  - ✓ Bright flyers, school app messages, and SMS reminders to parents
- Student-friendly forms:
  - ✓ visuals, slogans like "Protect Your Future"



System-Level Nudges



- **Streamlined Consent Process**:
  - ✓ Normalise consent as a routine school activity
  - ✓ Include immunisation consent forms in school enrolment packs
  - ✓ Send reminders or updates before year 7 & 10 vaccinations based on prior consent.
  - ✓ Explore default consent models requiring legal review & transparency
  - ✓ Priority scheduling: block immunisation days in calendars
- **Curriculum Integration**:
  - ✓ Include immunisation education in health or science classes
- **Centralised Coordination**:
  - ✓ Improve school-provider coordination through calendar reminders, clearer timelines, and reduced form handling.

Summary

Strategies to improve uptake of adolescent vaccines require co-design with adolescents and their parents, and the education sector

Nudges may be an effective and innovative way to improve vaccine uptake along with education

All stakeholders in the adolescent immunisation delivery chain should consider ways they could improve access to vaccines for young people

Alternative opportunities for catch-up including Aboriginal Health Services, GPs, pharmacists