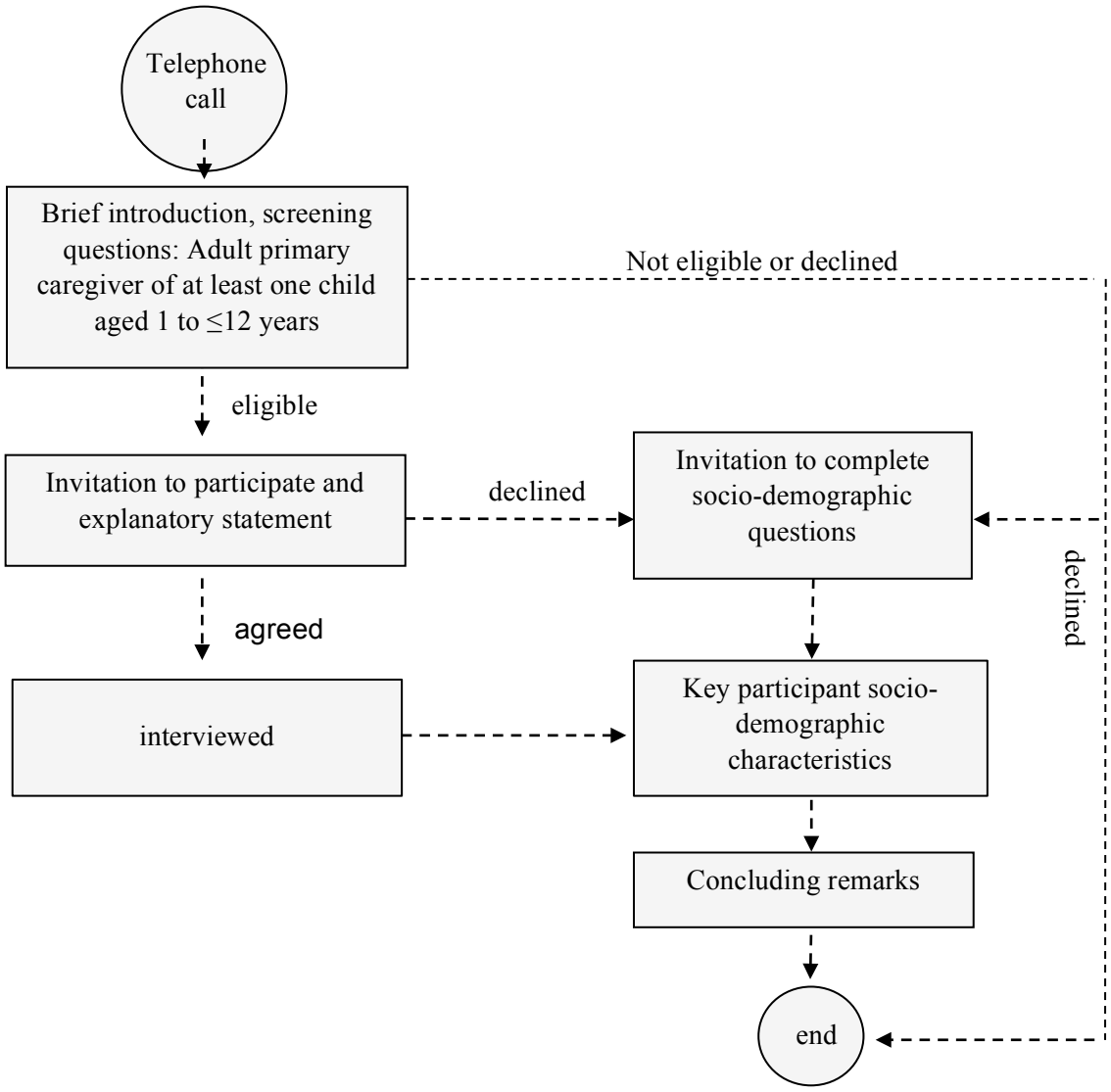
Supplemental materials for:

Coxeter P, Del Mar C, Hoffmann T. Parents' expectations and experiences of antibiotics for acute respiratory infections in primary care. *Ann Fam Med*. 2017;15(2):149-154.



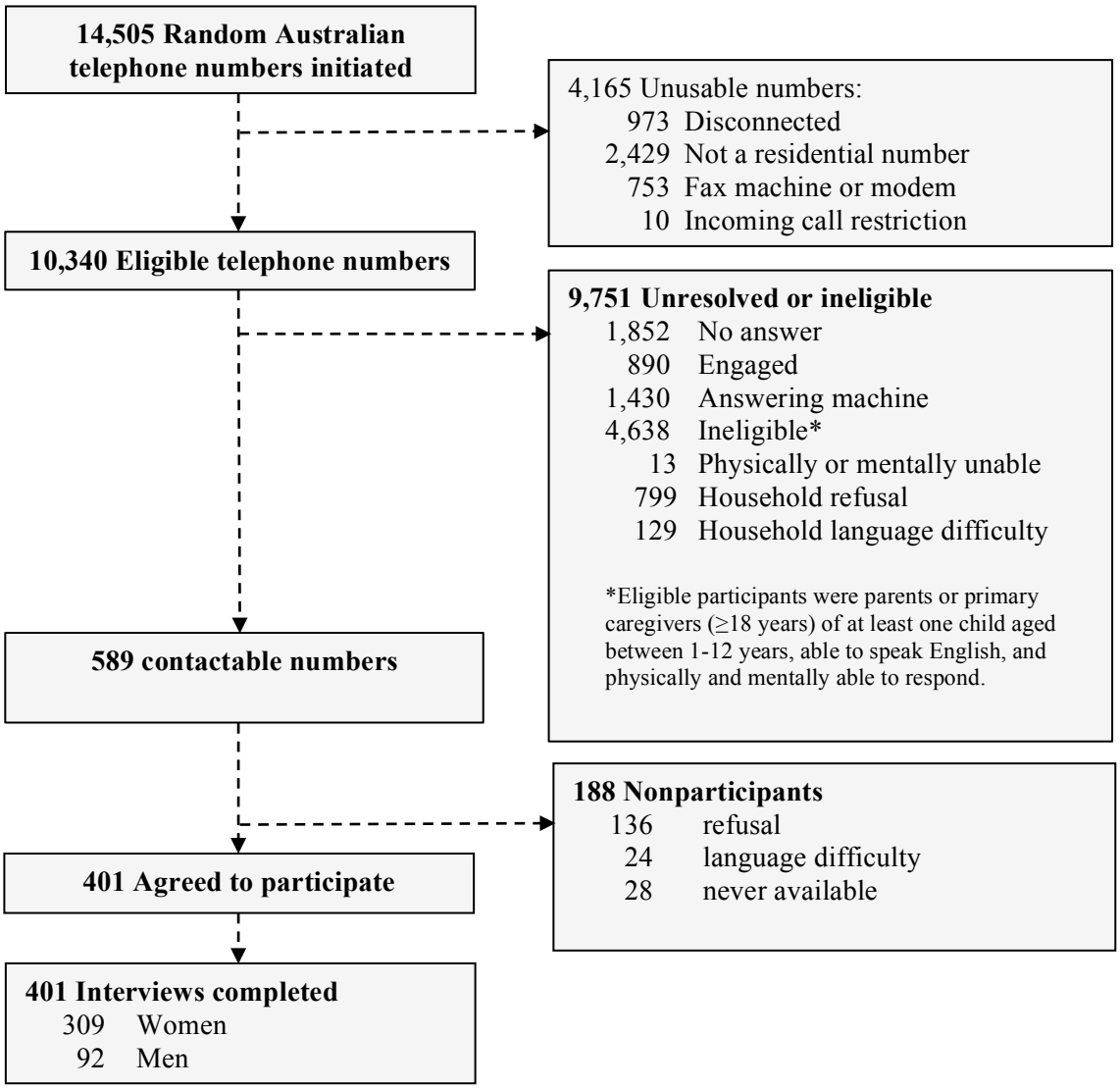
Supplemental Appendix Figure 1: Computer-Assisted Telephone Interview sequence (flow chart)

Notes:

Eligible participants: were parents or primary caregivers of at least one child between 1 and 12 years of age, inclusive. If more than one primary caregiver was identified within the household, the respondent was asked to nominate the person mainly responsible for the child's or children's healthcare. Non-English speaking respondents, or those physically or mentally unable to participate, were excluded.

Procedure: Respondents were read a brief explanation of the study and screened for eligibility. If more than one eligible primary caregiver was identified, the person mainly responsible for health decisions was selected. Eligible participants were read a précis of the study and fully informed about participation requirements before consent was invited. Potential participants who wanted more time to consider participation were provided with a website address which contained the relevant information, and a follow-up appointment to discuss participation was offered. Participation was voluntary and no

incentives were offered. Consenting participants could complete the interview then, or make an appointment for a more convenient time. Eligible people who declined to participate were asked for brief socio-demographic details. We excluded non-English speaking respondents to keep study costs manageable.



Supplemental Appendix Figure 2. Recruitment of participants for Computer Assisted Telephone Survey

Notes:
Only one eligible non-participant agreed to provide brief socio-demographic details.

Supplemental Appendix Table 1. Participant perceptions about how antibiotics can help

Percentage of participants who nominated 'reasons antibiotics can help', (ordered by frequency of reasons)					
Acute otitis media	**%**	**Sore throat**	**%**	**Acute cough**	**%**
treats 'infection'	38	kills bacteria	38	treats 'infection'	39
kills bacteria	28	treats 'infection'	22	kills bacteria	28
relieves pain	7	treats tonsillitis	15	reduces duration	4
reduces duration	6	reduces duration	4	treats pneumonia	4
reduces inflammation	5	treats sore throat	4	treats acute cough	3
treats AOM	4	treats 'strep throat'	4	treats bronchitis	3
doctor prescribes them	3	relieves pain	3	relieves congestion	3
symptom relief inadequate	3	reduce inflammation	3	relieves pain	3
strengthens immunity	2	kills virus	2	prevents complications	2
prevents complications	1	doctor prescribes them	2	reduces severity	2
kills virus	1	strengthens immunity	1	strengthens immunity	2
reduces fever	1	prevents complications	1	treats whooping cough	2
reduces severity	1	treats laryngitis	1	doctor prescribes them	2
		reduces fever	1	kills virus	1
				reduces inflammation	1
				reduces fever	1

Supplemental Appendix Table 2. Participant perceptions about why antibiotics can *not* help

Percentage of participants who nominated 'reasons antibiotics can *not* help',

(ordered by frequency of reasons)

Acute otitis media	**%**	**Sore throat**	**%**	**Acute cough**	**%**
11 responses		115 responses		175 responses	
'no benefit'	36	viral or other (non- bacterial) cause	45	viral or other (non-bacterial) cause	52
viral or other (non-bacterial) cause	27	unnecessary	17	'no benefit'	12
ear needs local treatment	18	other treatment options	17	not indicated/ unnecessary	10
not good for body	9	resolves by itself	8	resolves (or body can heal) by itself	9
need to use own immunity	9	need to use own immunity	6	Other available treatment options	8
		no benefit	2	need to use/build own immunity	5
		antibiotic resistance	2	minor illness (unless complications arise)	2
		not good for the body	2	antibiotic resistance	1
		side effects	1	side effects	1

Supplemental Appendix Table 3. Participant perceptions about why not using antibiotics is an option

Percentage of participants who nominated reasons 'why not using antibiotics is an option'

(ordered by frequency of reasons)

Acute otitis media	**%**	**Sore throat**	**%**	**Acute cough**	**%**
n=233		n=444		n=412	
resolves (or body heals) without treatment	29	viral or 'other' cause (not bacterial, or 'infection')	31	viral, cold/flu, or 'other' cause (non-bacteria) or 'infection'	39
viral or 'other' cause (non-bacterial)	21	other treatment options	22	resolves (or body heals) without treatment	19
mild or short-term (<3 days) illness	20	unnecessary, for mild or short-term (<3 days) illness	18	other treatment options	14
other treatment options (eg. pain and symptomatic relief)	18	resolves (or body heals) without treatment	16	unnecessary, for mild or short-term (>3 days to 2 weeks) illness	10
Doctor's advice	6	antibiotic resistance	4	only if 'dry' cough	4
antibiotic resistance	2	overuse of antibiotics	3	to strengthen immunity	4
weakens immunity	2	to strengthen immunity	3	'no benefit'	3
to strengthen immunity	2	on doctor's advice	1	overuse of antibiotics	2
		weakens immunity	1	antibiotic resistance	2
		'no benefit'	1	weakens immunity	2
				on doctor's advice	1
				cough only a 'symptom'	1

Supplemental Appendix Table 4. Participant perceptions about why antibiotics are necessary, as reported by participants (% of participants nominating these reasons)

Acute otitis media	**%**	**Sore throat**	**%**	**Acute cough**	**%**
n=192		n=7		n=4	
will not resolve without treatment	42	will not resolve without treatment	57	for 'chesty' (not 'dry') cough	50
prevents complications	22	prevents complications	29	will not resolve without treatment	25
pain	14	pain	14	prevents complications	25
unaware of other treatment options	5				
more serious illness	5				
reduce illness duration	4				
previous experience	3				
doctor's advice	3				
ear more 'delicate' and 'close to the brain'	3				

Supplemental Appendix Table 5. Complications perceived as reduced by antibiotic use, as reported by participants (% of participants nominating these complications)

Acute otitis media	**%**	**Sore throat**	**%**	**Acute cough**	**%**
hearing loss	16	other infections	28	'chest' infection	20
other infections (eg. encephalitis, meningitis, or mastoiditis)	15	tonsillitis	20	pneumonia	19
perforated eardrums	14	severe illness	10	other infections	13
pain	11	fever	7	severe illness	12
severe illness	11	eating/swallowing difficulty	6	bronchitis/ bronchiolitis	7
ear 'damage'	6	pain	4	preventing asthma	5
dizziness or loss of balance	5	prolonged illness	4	prolonged illness	4
fever	5	irritability/discomfort	4	breathing difficulties	4
prolonged illness	4	'strep throat'	3	phlegm/congestion	3
irritability/discomfort	3	laryngitis	2	fever	3
pus/fluid buildup	2	inflammation	2	irritability/ discomfort	2
grommets	2	disturbed sleep	2	disturbed sleep	2
convulsions	2	lumps and ulceration	2	'damage' to lung	2
recurrent illness	2	breathing difficulties	1	weakened immunity	1
speech impairment	1	'pus' buildup	1	hospitalization	1
disturbed sleep	1	'weakened' immune system	1	spread of infection to others	1
		recurrent illness	1	organ damage (kidney, brain)	1
		vomiting	1		

a=465 participant responses; b=336 participant responses; c=270 participant responses

Supplemental Appendix Table 6. How other prescription and over-the-counter (including complementary) treatments, and home remedies for ARIs in children, may help or harm, as reported by participants

	AOM	Sore throat	Acute cough
Analgesics/ antipyretics [a]	n=328	n=283	n=155
How it helps	Relieve pain, reduce fever/ inflammation; clears/drains fluid –reduces pressure; sedative; 'placebo' effect; aids sleep/comfort	Relieve pain, reduce fever/ inflammation; treats infection; dries secretions; aids sleep	Reduces symptoms, relieve pain (from cough), reduce fever/inflammation; relieves cough/spasm; sedative – aids sleep; 'placebo' effect
How it may harm	Gastro-intestinal irritation; liver/ kidney damage; seizures; allergic reaction; thins blood; slows heart rate, damages teeth; addiction (codeine); masks symptoms; caution use in asthma	Gastro-intestinal irritation; liver/ kidney damage; seizures; allergic reaction; thins blood; slows heart rate; addiction (codeine); masks symptoms; caution use in asthma	Gastro-intestinal irritation; liver/ kidney damage; masks symptoms; caution use in asthma
Antihistamines [b]**/ mucolytics**	n=6	n=54	n=256
How it helps	Dries mucous; sedating	Clear sinus; relieves congestion; treats infection; reduces cough/post-nasal drip; opens airway; relieves symptoms; reduces inflammation; 'placebo' effect	Soothes throat; stops cough; relieves congestion; clears sinus; reduces symptoms and complications; dries mucous; stops post-nasal drip; aids sleep; supports immunity; 'placebo' effect
How it may harm	-	Vomiting; dehydration	Stomach ulcers; liver/kidney damage; tooth decay; sedative; damage throat 'cells'; masks symptoms
Asthma medication [c]			n=49
How it helps	-	-	Relieves cough; opens lungs; reduces inflammation; resolves mucous; prevents asthma
How it may harm	-	-	Induces grogginess/ violence/mood swings,

			acquired intolerance (prednisone); allergy, stunted growth, dry mouth/bad breath, mouth ulcers (flixotide); increase heart rate/'hyper' reaction (Ventolin)
Topical ear drops/swabs/ candles [d]	n=39		
How it helps	Relieve pain, reduce fever/inflammation; treats infection; dries fluid - reduces pressure; discourages bacterial growth; reduces symptom severity/duration	-	-
How it may harm	Allergic reaction; may sting; reduce 'ear sensitivity'	-	-
Topical throat sprays/lozenges		n=135	n=36
How it helps	-	Reduce symptom severity/duration; relieves/numbs pain; 'coats'/lubricates throat; reduce inflammation; treats infection; aids sleep; 'placebo' effect	-
How it may harm	-	Diarrhoea; drowsiness; allergy; liver damage; tooth decay; mask symptoms	-
Drinks/teas [e]	n=1	n=53	n=33
How it helps	Relieves pain/ congestion	Soothe/'clear' throat, relieve congestion; antibacterial (eg. honey, lemon); support immunity (eg. ginger); reduce symptoms	-
How it may harm	-	-	-
Honey (Manuka/other)		n=24	n=12
How it helps	-	Reduces pain/inflammation; supports immunity; 'placebo' effect; reduces duration (anti-bacterial properties)	Reduces symptom severity/duration and inflammation; resolves congestion; antiviral/ antibacterial properties
How it may harm	-	Allergy; teeth decay	_

Gargles [f]	n=1	n=57	n=4
How it helps	Treats infection (iodine) /prevents spread to ear/nose	Treats infection; reduce symptom severity/duration (eg. pain)	Treats infection (saline)
How it may harm	-	-	-
Nasal sprays [g]	n=3	n=1	n=4
How it helps	Helps drain/clear mucous	Reduce pain	Resolves congestion; stops post-nasal drip
How it may harm	-	-	-
Chest rubs		n=7	n=21
How it helps	-	Opens airways; relieves congestion; soothes throat; aids sleep	Opens airways to assist breathing; clears sinus; resolve congestion; stops post-nasal drip; reduces symptoms; aids sleep; 'placebo' effect
How it may harm	-		Skin irritation
Vaporiser/ humidifier			n=38
How it helps	-	-	Reduces cough; clears chest/sinus; resolves congestion; 'moistens' airways; aids sleep
How it may harm	-	-	-
Heat therapy [h]	n=6		
How it helps	Soothes; reduces pain; helps soften/drain 'hard' blockages	-	-
How it may harm	May burn	-	-
CAM therapies [i]	n=5	n=9	n=11
How it helps	Reduce symptom severity/duration; supports/builds immune system	Reduce symptom severity/duration; supports/builds immune system	Alternative 'cure'; builds immune system
How it may harm	-	-	-
Herbal extracts [j]	n=2	n=16	n=16
How it helps	Reduce symptom severity/duration; supports/builds immune system	Treats infection; reduce symptom severity/duration; supports/builds immune system; reduces mucous	Reduces symptom severity/duration; relieves congestion
How it may harm	-	-	-
Vitamins/	n=10	n=40	n=34

Supplements [k]			
How it helps	Reduce symptom severity/duration; supports/builds immune system	Reduce symptom severity/duration; supports/builds immune system; treats vitamin deficiency	Reduces symptoms; treat infection; builds immunity; restores healthy bacteria
How it may harm	Gastro-intestinal irritation	Diarrhoea; tooth decay	Diarrhoea

a=includes single and combination products (eg. paracetamol, ibuprofen, paracetamol/codeine, paracetamol/codeine/promethazine, paracetamol/phenylephrine)
b=antihistamines includes promethazine
c=includes ventolin, flixotide, seritide, singulair, prednisone/prednisolone
d=includes prescribed (eg. antibacterial, antifungal), over-the-counter (eg. aqua-ear, auralgan, hydrogen peroxide), home remedies (eg. garlic oil, caster oil, coconut oil/garlic, onion tea/olive oil, olive oil), and unspecified.
e=includes herbal teas (eg. honey/ginger, ginger, tumeric, white marshmallow, garlic/ginger/lemon/honey, walmut) and drinks (eg. apple cider vinegar, orange juice, lemon/honey)
f=includes iodine, saline, aspirin, paracetamol, betadine
g=includes over-the-counter (eg. Saline, fess, otrivin)
h=including wheat or flannel bag
i= homoeopathy/naturopathy/herbal medicine/traditional chinese medicine
j= includes black elderberry, echinacea, olive leaf, ivy leaf, aniseed, grapefruit seed
k=includes vitamins (eg. vitamin C, multivitamins, antioxidants) and supplements (eg. wheatgrass, watermelon tablets, probiotics, immune support tablets, fish oil tablets, garlic, tumeric, horseradish/garlic/zinc)