(In)appropriate antibiotic self-treatment of traveller's diarrhea

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Introduction

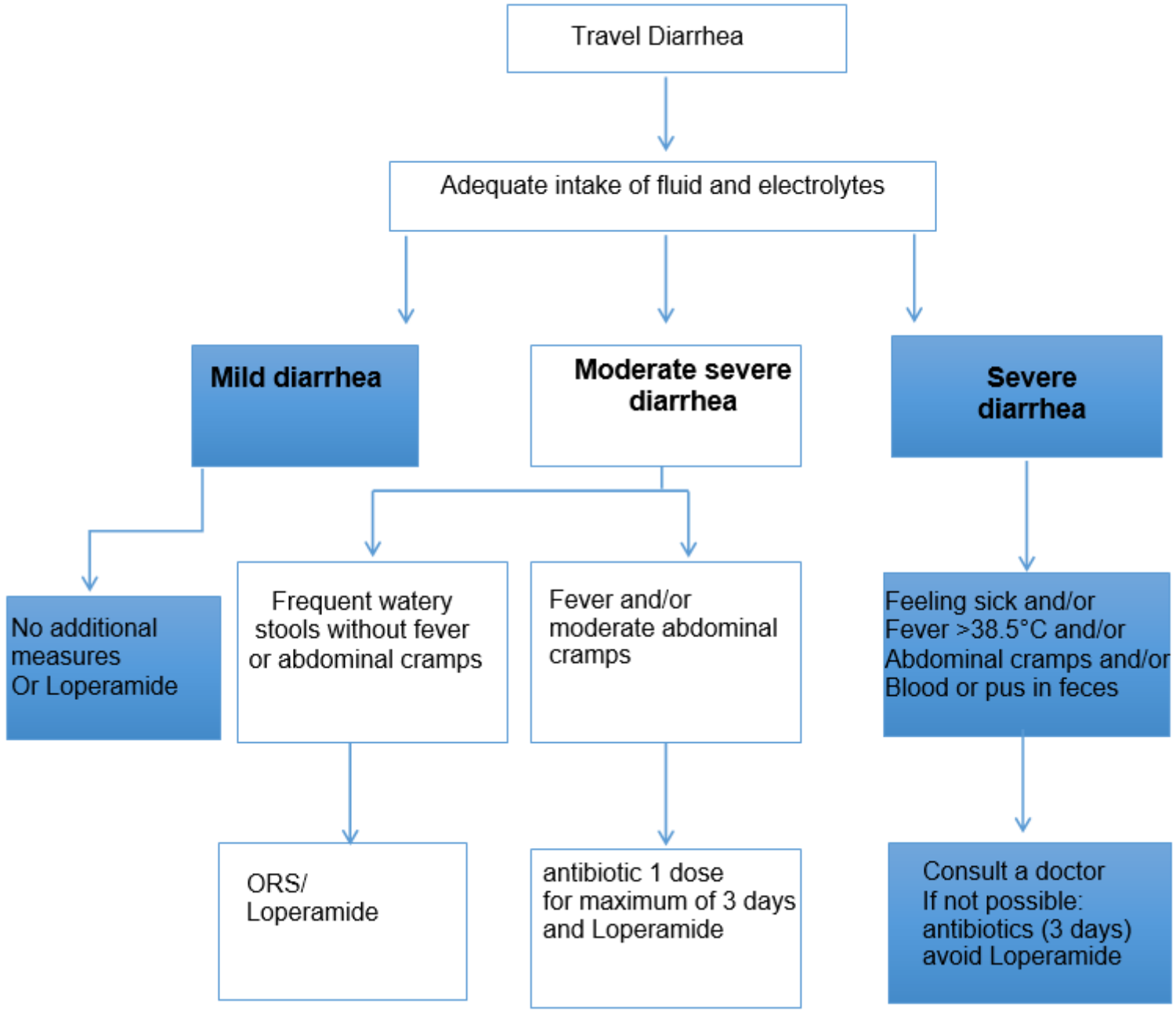
- Diarrhea is the most frequent medical problem ecounterd by travellers
- Most guidelines: self- treatment for TD
- Antibiotics are moderately effective in reducing length*
  - 0.7 – 1.5 days
  - ± 5 unformed stool less in 72 hour period
  - Significantly more side effects (OR 2.37)
- Even a single dose of antibiotics significantly increases the likelyhood to become colonised with ESBL enterobacteriacaea
  - Kantele *et al*
  - See previous presentation

*de Bruyn G, Hahn S, Borwick A. Cochrane Database of Syst. Rev. 2000, 3

Introduction

- Until 2016: an antibiotic prescription for every traveller
- Independent of
  - Type of travel
  - Duration of travel
  - Age
  - Co-morbdities
- Ofloxacin 400 mg QD for max 3 days
- Azitromycine 500 mg QD for max 3 days

Self-treatment algorithm



Introduction

- Shouldn´t we limit antibiotic prescriptions?

´We don´t believe that out travellers overuse their antibiotics´

´In my experience they only take it when necessary ´

Study objectives

- How well do patients comply to the guideline?
  - How many travelers have TD
    - Risk factors
  - How many travelers use antibiotics for TD?
    - How many travelers **use** antibiotics **appropriate** according to guideline?
    - How many travelers **use** antibiotics **inappropriate** according to guideline?
    - How many travelers **don´t use** antibiotics **inappropriate** to guideline?
  - Risk factors for suboptial antibiotic use

Methods

Inclusion/exclusion

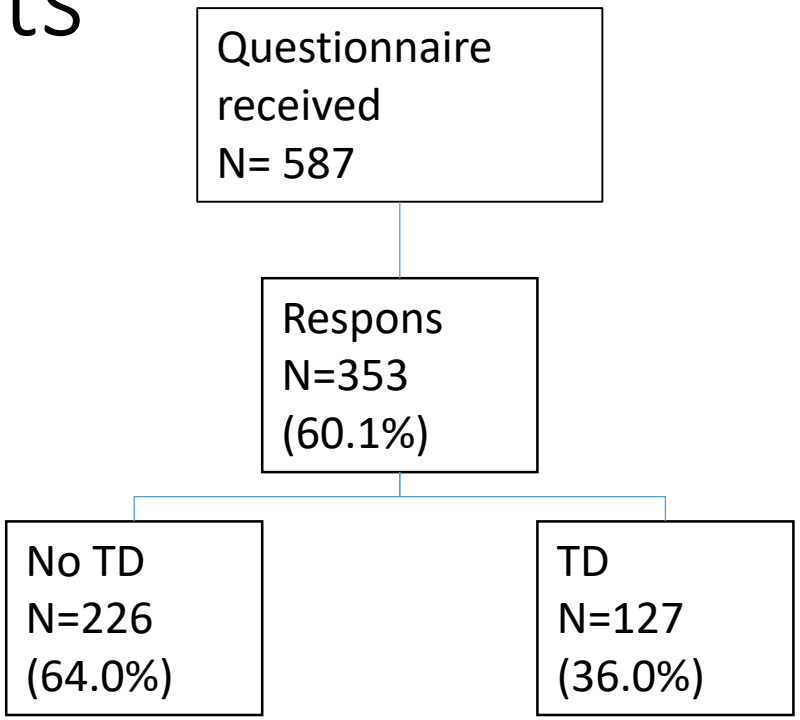
- All travellers visiting travel clinic dec 2015-Jun2016
- Duration of ≤ 3 weeks
- Age >18 years
- Able to understand Dutch
- Written informed consent

- Pre-travel survey
  - Demographics
  - travel itinerary
  - Health status
  - medication use

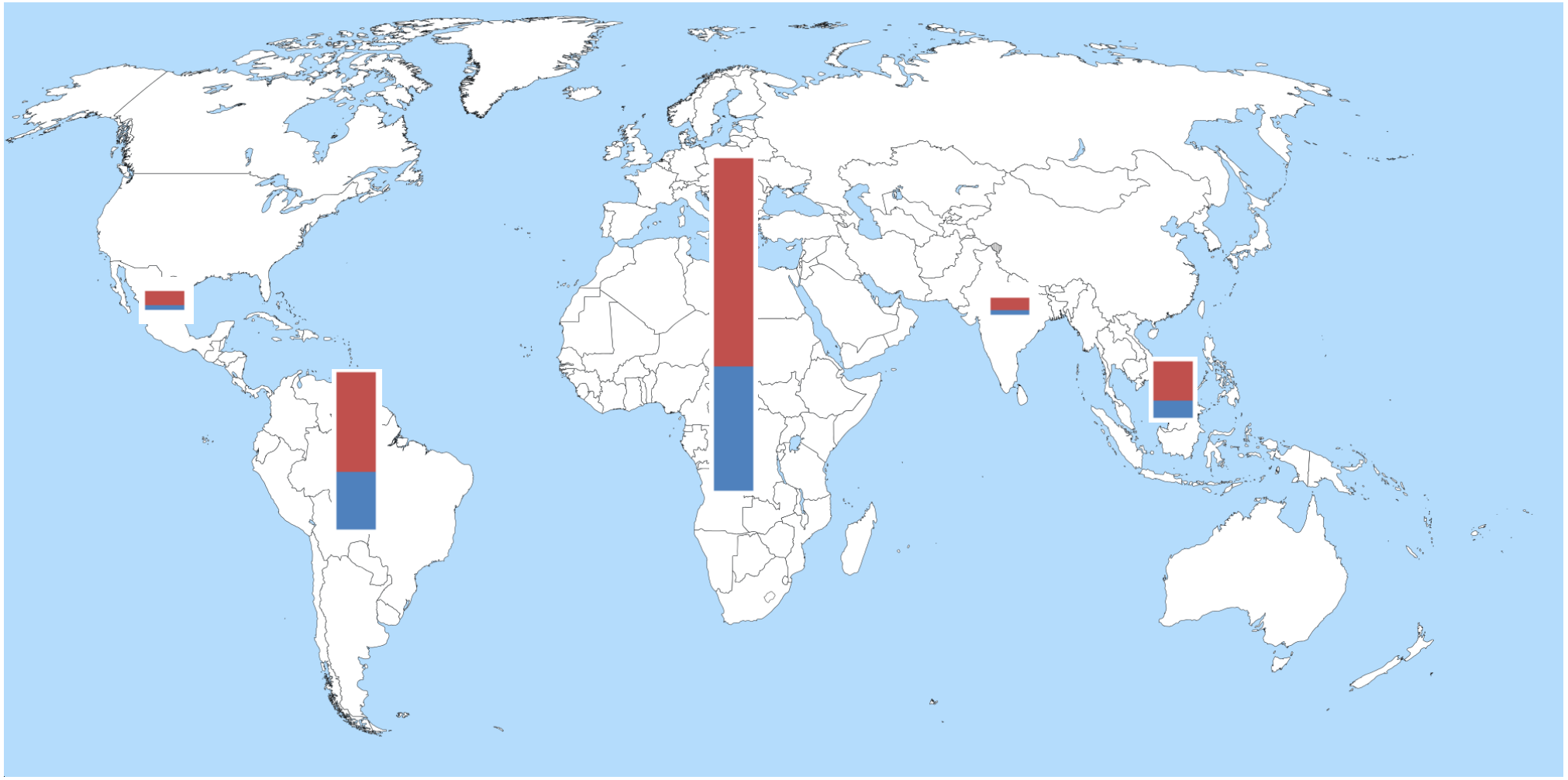
Methods

- Post-travel: questionnaire sent by email-link
  - Travel diarrhea
    - Durations of symptoms
    - Number of stools
    - Accompanying symptoms
  - Antibiotic
    - Got a prescription ?
    - What antibiotic was prescribed, by who?
    - Brought the antibiotic during travel?
  - Antibiotic use
    - When started
    - How many days
    - For other indications?
  - Other medications use
    - Loperamide, domperidone
    - PPI, H2 I
  - level of education

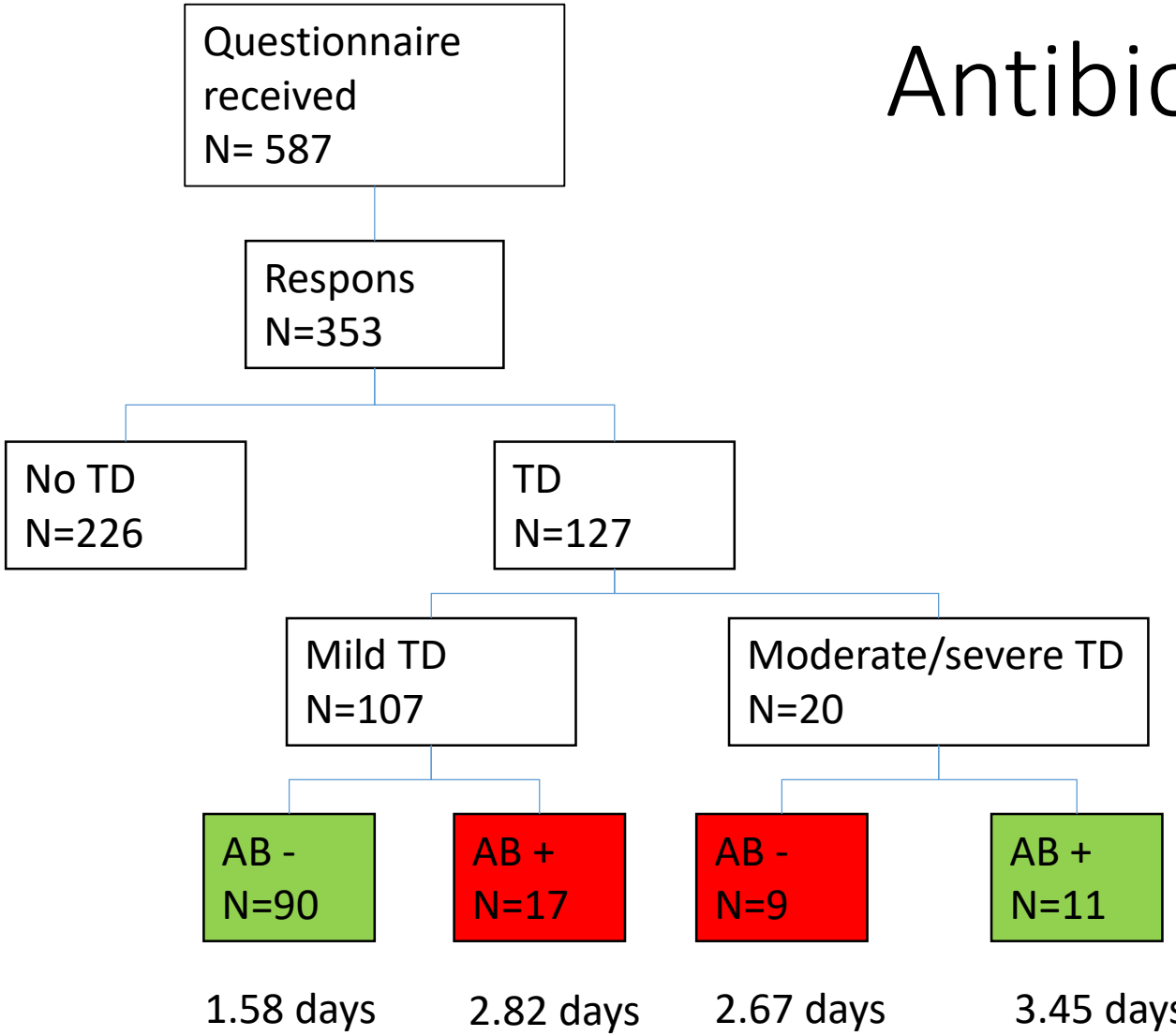
Results


Questionnaire received
N= 587
Respons
N=353
(60.1%)
No TD
N=226
(64.0%)
TD
N=127
(36.0%)

Results



Antibiotic use for TD



- Of 28 patients that used AB for TD only 11 (39.3%) was in accordance with the guideline

	Number of travellers	Travellers with TD N (%)	
Age			
<25	52	24 (46.2)	
25-54	186	65 (34.8)	
≥55	115	38 (33.0)	p=0.24
Gender			
Male	170	63 (37,1)	
Female	183	64 (35,0)	p=0.68
Type of travel			
Tourist	169	69 (35.2)	
Adventure	72	32 (44.4)	
VFR	54	17 (31.5)	
Business	15	3 (20)	
Other	12	6 (50)	p=0.22
Destination			
Africa	201	75 (37.3)	
South America	95	35 (36.8)	
Southeast Asia	34	10 (29.4)	
Central America	11	3 (27.3)	
South Asia	10	3 (30)	p=0.85
Duration of travel			
≤1 week	29	6 (20.7)	
>1 - ≤2 weeks	182	63 (34.6)	
>2-3weeks	142	58 (40.8)	p=0.04
Use of PPI			
Yes	41	15 (36.6)	
No	312	112 (35.9)	p=0.93

Optimal vs suboptimal treatment

- Optimal: Mild TD, AB- and moderate-severe TD, AB+
- Suboptimal: Mild TD, AB+ and moderate-severe TD, AB-

	Optimal treatment N=99 (%)	Suboptimal treatment N= 28(%)	
Age			
<25	21.2	10.7	
25-54	46.5	67.8	
≥55	32.3	21.4	p=0.39
Gender			
Male	49.5	50	
Female	50.5	50	p=0.96
Type of travel			
Tourist	54.1	53.6	
Adventure	25.3	25	
VFR	13.1	14.3	
Other	7.1	7.1	p=0.99
Education			
High	72.7	64.3	
Middle/low	27.3	35.7	p=0.38

Conclusion

- TD is frequent condition
  - Only duration of travel associated with risk
  - No association with PPI use
- Poor compliance with guideline
  - 39.3% of AB use in accordance with guideline
  - Both overuse and underuse of AB
- No subgroups with better or worse compliance

New Belgian guidelines

- No antibiotics prescribed expect for
  - Long-term travel
  - High risk for complications
    - Children <12 years
    - Pregnant women
    - Immunocompromised patients (diabetes, HIV,
    - IBD, diabetes,..
  - Decreased gastric acid production
  - Travel to Afrika and Asia for at least 16 day
  - Short term travel to Indian subcontinent
  - Adventurous travel

Het voorschrijfgedrag van stand-by antibiotica voor de behandeling van ernstige reizigersdiarree dient beperkt te worden.

Azithromycine 1 g in stat (éénmalig) wordt als eerste keuze voorgesteld.

Azithromycine blijft aangewezen voor reizen naar twee continenten (Afrika en Azië) met als beperking een minimale reisduur van 16 dagen (o.b.v. Kantele et al).

Bepaalde risicogroepen dienen ongeacht hun reisbestemming en de duur te beschikken over azithromycine,
zoals:

- **kinderen onder 12 jaar**
- **zwangeren**
- **personen met een verminderde immunologische weerstand (diabetes, HIV, chronische inflammatoire darmziekten, chronisch gebruik van immunosuppressiva,...)**
- **personen met een verminderde/afwezige maagzuurproductie**
- **Avontuurlijke reizigers (trekking – jungle – hoogte – lange duur)**
- **Bij korte reizen naar het Indisch subcontinent**

Er kan eveneens overwogen worden om voor personen die langdurig of zeer avontuurlijk gaan reizen (jungle/hoogte) azithromycine voor te schrijven ongeacht hun reisbestemming.

Discussion

- Data support the decision to limit antibiotic prescription
- Applying new guidelines
  - 62% of travellers in this cohort would not be eligible for antibiotic prescription
- In this group of 206 travellers
  - 70 had diarrhea
  - 4 took antibiotic according to guideline

Discussion

- Arguments for further restrictions of AB prescription
  - PPI / H2 receptor antagonist ?
  - All destinations <16 days ?

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