

Meningococcal disease: Challenges for public health policy

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European Meningococcal Public Health Policy Survey 2007

Sent: 28 (1 bounced)

Response rate: 81% (22/27)

Countries responded:

Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Lithuania, Malta, Netherlands, Norway, Poland, Romania, Slovakia, Spain, Sweden, Switzerland, United Kingdom

A story

A 35 year old male takes a plane from a European city to Chicago (8hr flight) on a business trip returning 2 days later.

On the return flight, he sits in Seat 27B between 2 other passengers whom he does not know. He has a brief conversation with each of them during the mealtimes. He feels a bit unwell during the flight.

The next day he collapses and is admitted to hospital. He has shock and a haemorrhagic rash.

The hospital physician considers that the most likely clinical diagnosis is meningococcal septicaemia.

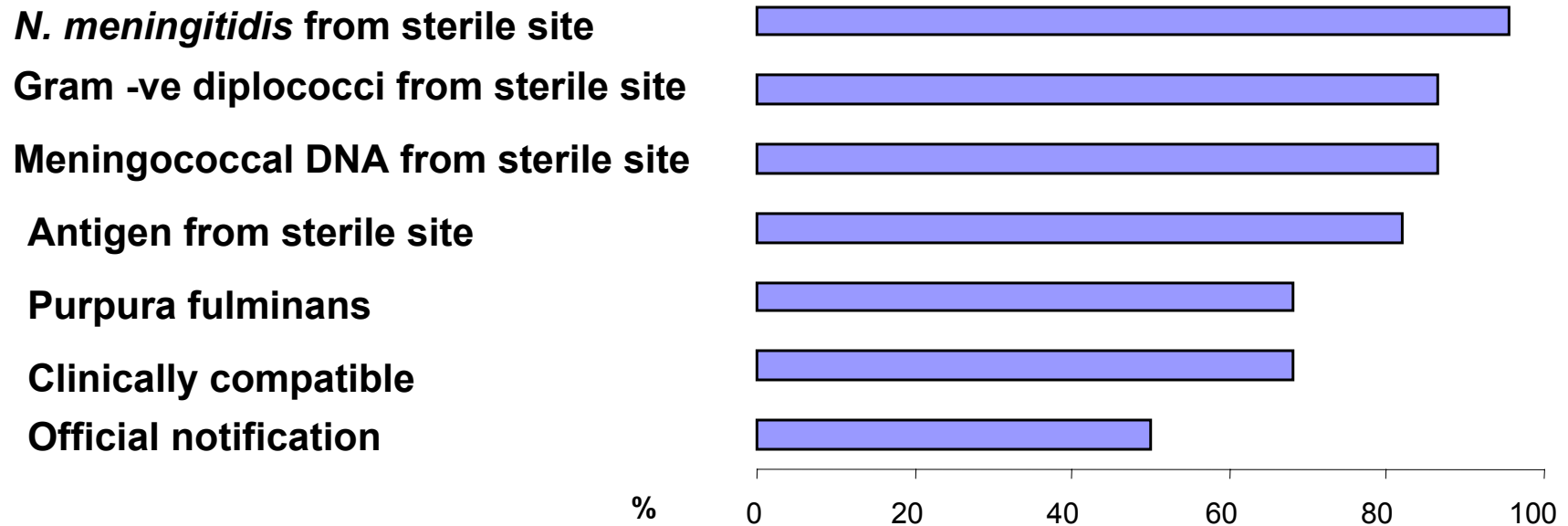
A. Do you start contact tracing now?

or

B. Do you wait for laboratory confirmation?

Euro Survey

How do you define a case for the purposes of control measures?



Evidence

- **High risk in close contacts**
- **Relative Risk >500, Absolute Risk 1 in 200 - 1 in 300)**
- **Highest in first 24 hours**

(de Wals P, 1981)

You decide to arrange antibiotics for close contacts.

His wife is pregnant. They have two young children aged 5 years and 18 months.

What antibiotics do you recommend for

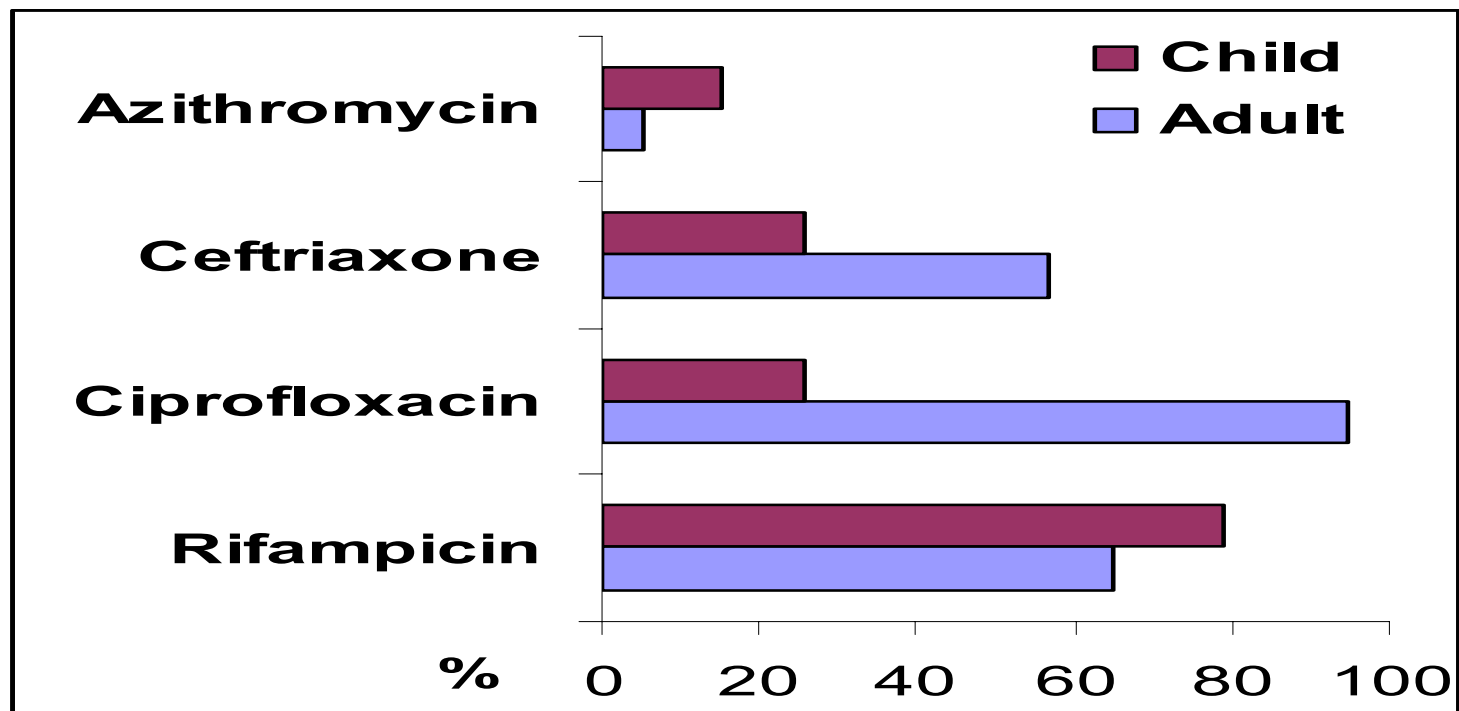
A. his 5 year old child

B. his 1 year old child

C. his wife

Euro Survey

What chemoprophylaxis do you normally recommend?

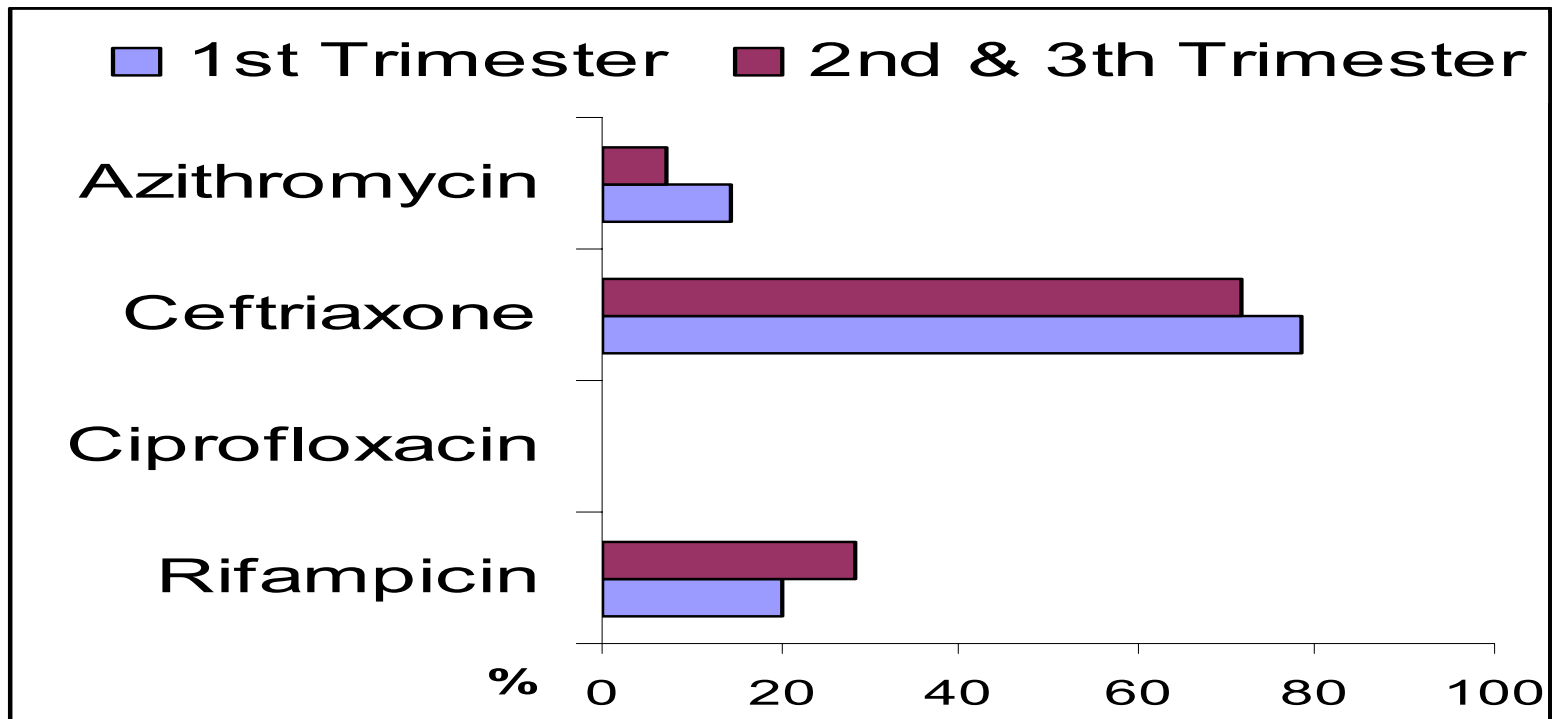


Euro Survey

Do you currently recommend chemoprophylaxis to pregnant women?

First Trimester: 85% yes

Second or Third trimester: 75% yes



Evidence

Carriage eradication reduces risk by 90% for one month, Systematic review. Purcell B, 2004.

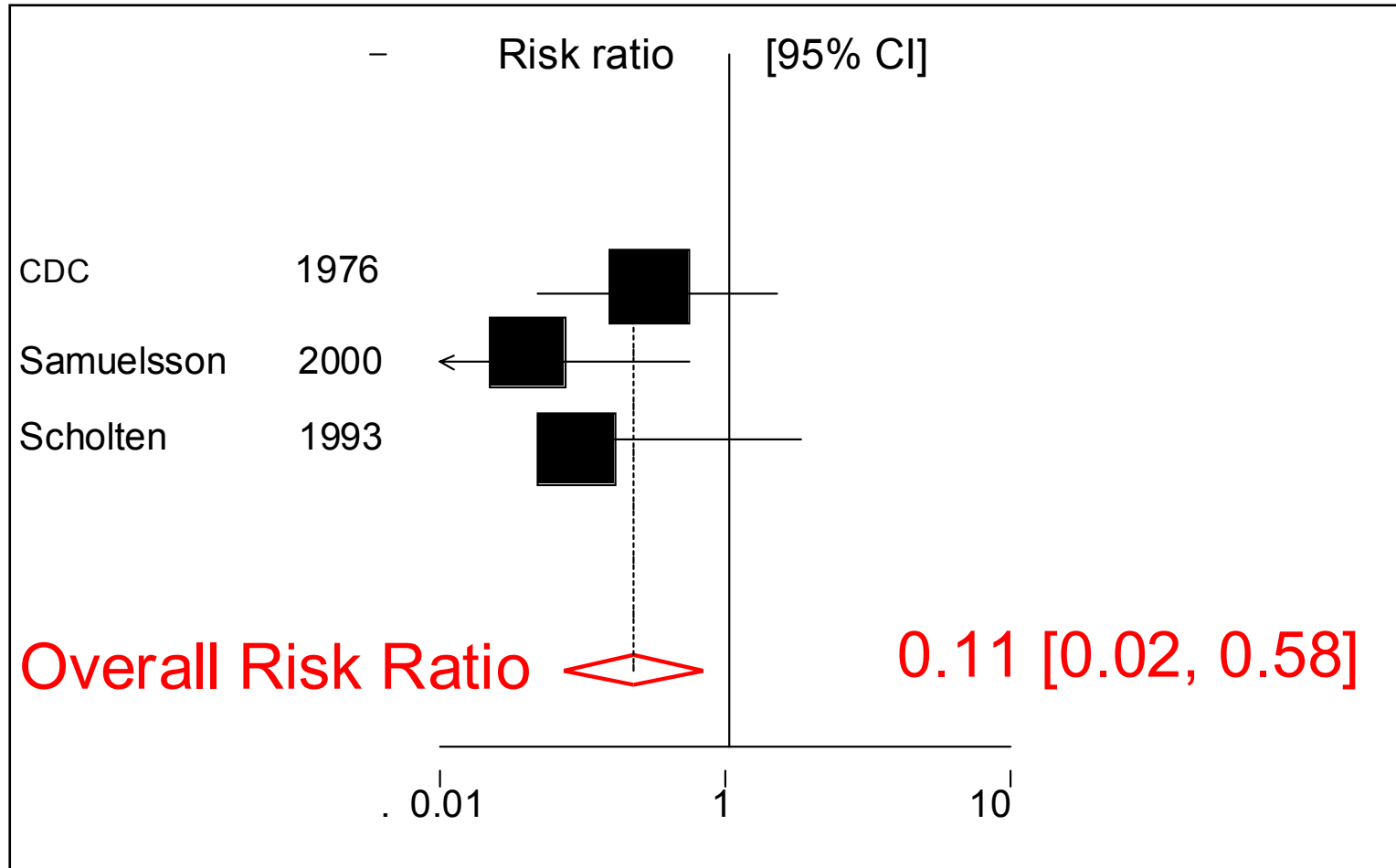
Ciprofloxacin, rifampicin and ceftriaxone effective at eradicating carriage 1-2 weeks after treatment. Not penicillin or minocycline. Fraser A, Cochrane Collaboration, 2005

Pregnancy: Ciprofloxacin not recommended.

Children: Ciprofloxacin, prescribable age moving downwards. Availability of rifampicin syrup?

Antibiotics to households

Risk reduction 1-30 days after index case



Do you try to arrange prophylaxis for passengers on the plane?

A. No-one

B. Passengers in the same row.

C. Passengers in the row behind and in front.

D. The whole plane

Euro Survey

Do you recommend chemoprophylaxis for fellow passengers of a case on a bus, train, or plane?

Yes: 86 %

Yes if;

> 8 hours, 7 hours, or 4 hours

Next to case, or 1-2 rows in front or behind case.

Same seat and sleeping together

Linked cases on public transport?

Two clusters among children who were regular travellers on the same school bus. Harrison L 1991, Preen D 2006.

One cluster in 2 older passengers on the same plane. 12 hour flight. Passengers 12 rows apart. Became ill 2 and 5 days after flight. Strains indistinguishable. O'Connor 2005.

Risk low, difficult to quantify.

He is a keen sportsman.

The day before taking the first plane (5 days before admission), he went out in a boat with seven other oarsmen. He had a drink of water from the bottle of someone behind him. They were not close friends.

Do you recommend prophylaxis for

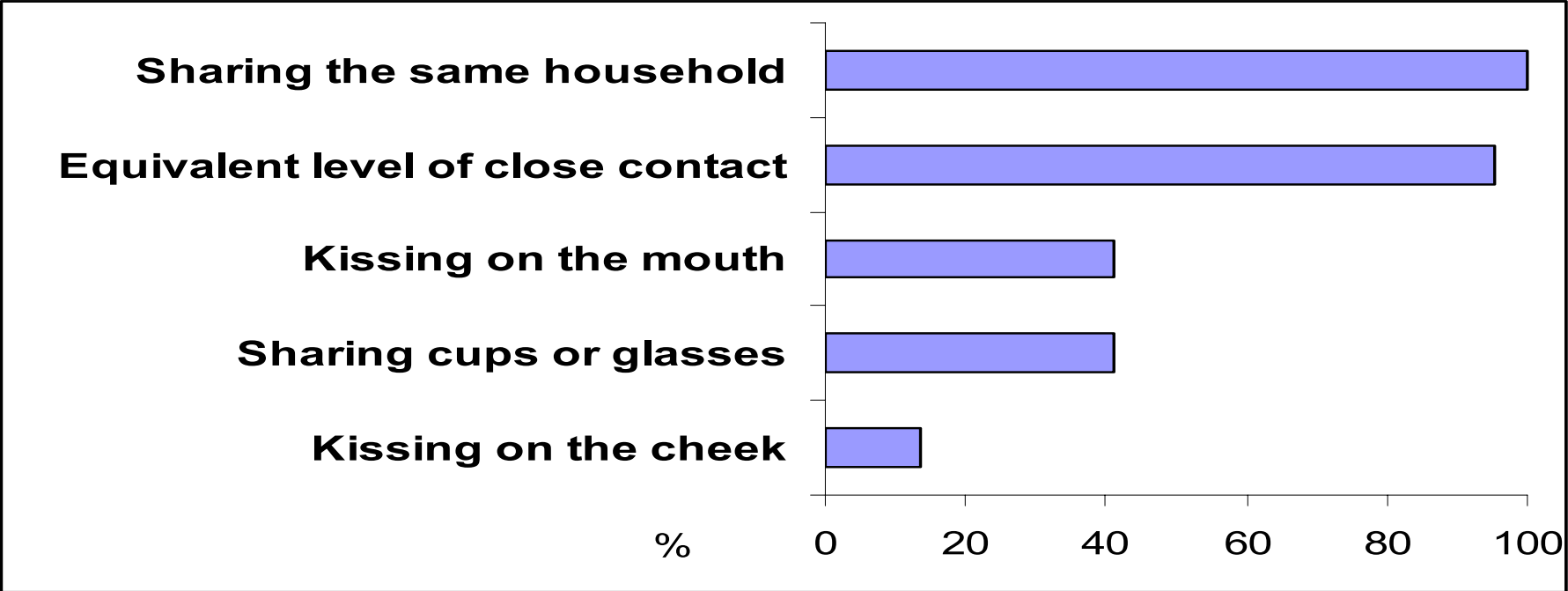
A. The person who owned the bottle

B. All others on the boat

C. No-one

Euro Survey

How do you define a close contact?



Evidence

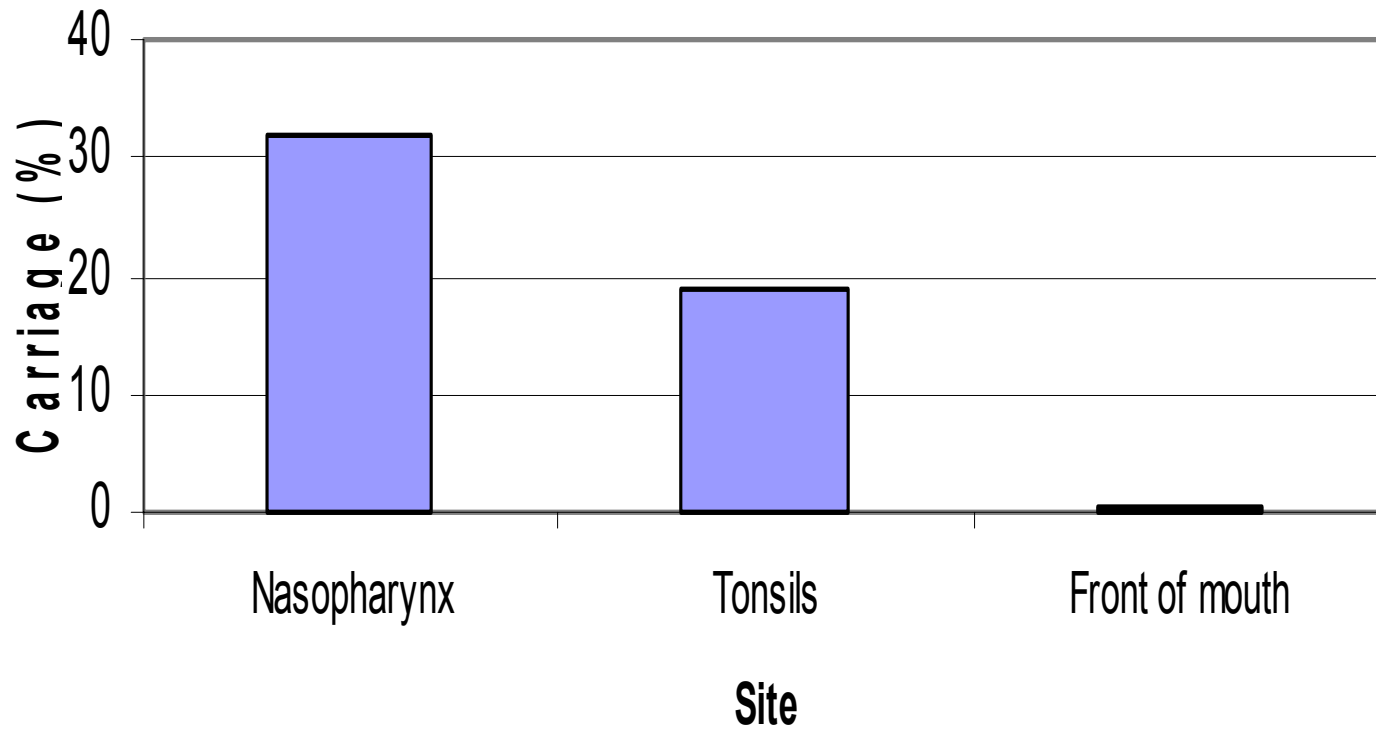
Meningococci can survive on glass, 10% survival at 2-5 hours (Swain C 2007)

Saliva inhibits meningococcal growth (Gordon 1917)

Difficult to culture meningococci from saliva (Orr H, 2003)

Sharing glasses not a risk for acquisition in students (Neal K 2000)

Carriage by site



While in Chicago at a business meeting, he kissed one or two friendly colleagues on the cheek.

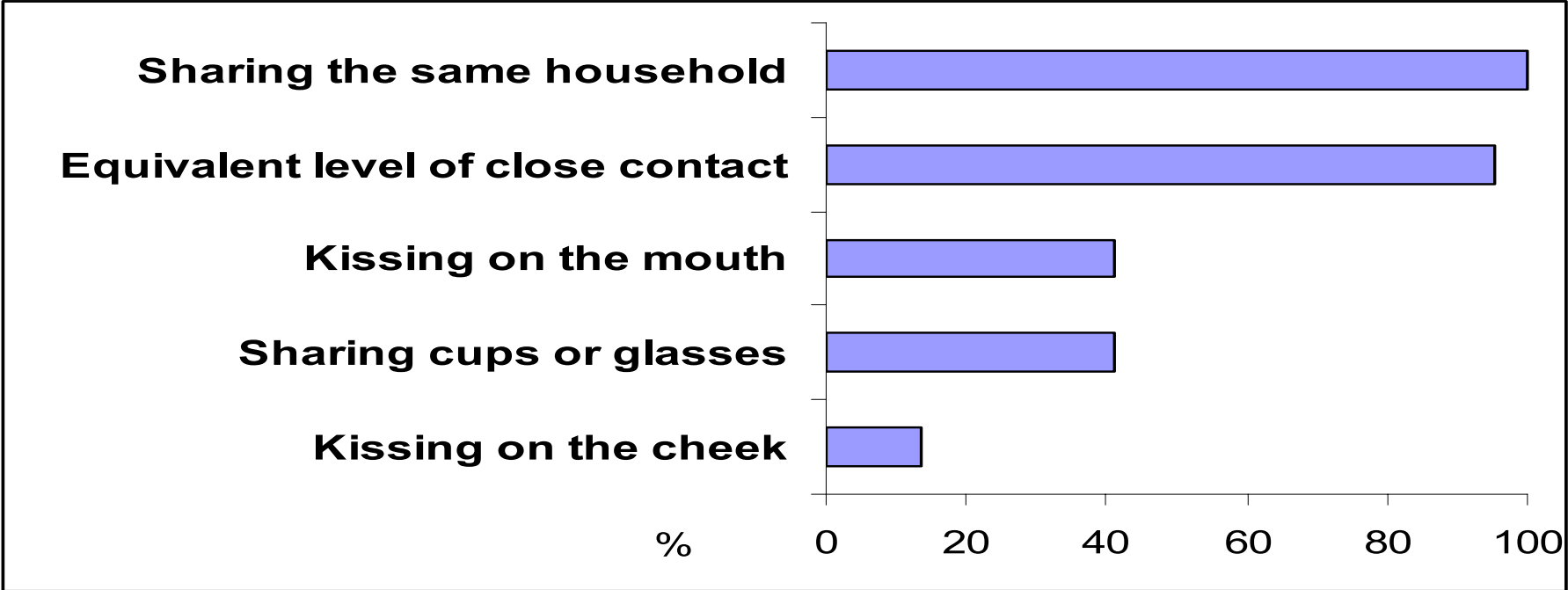
Would you recommend

A. That they are given chemoprophylaxis

B. Or not

Euro Survey

How do you define a close contact?

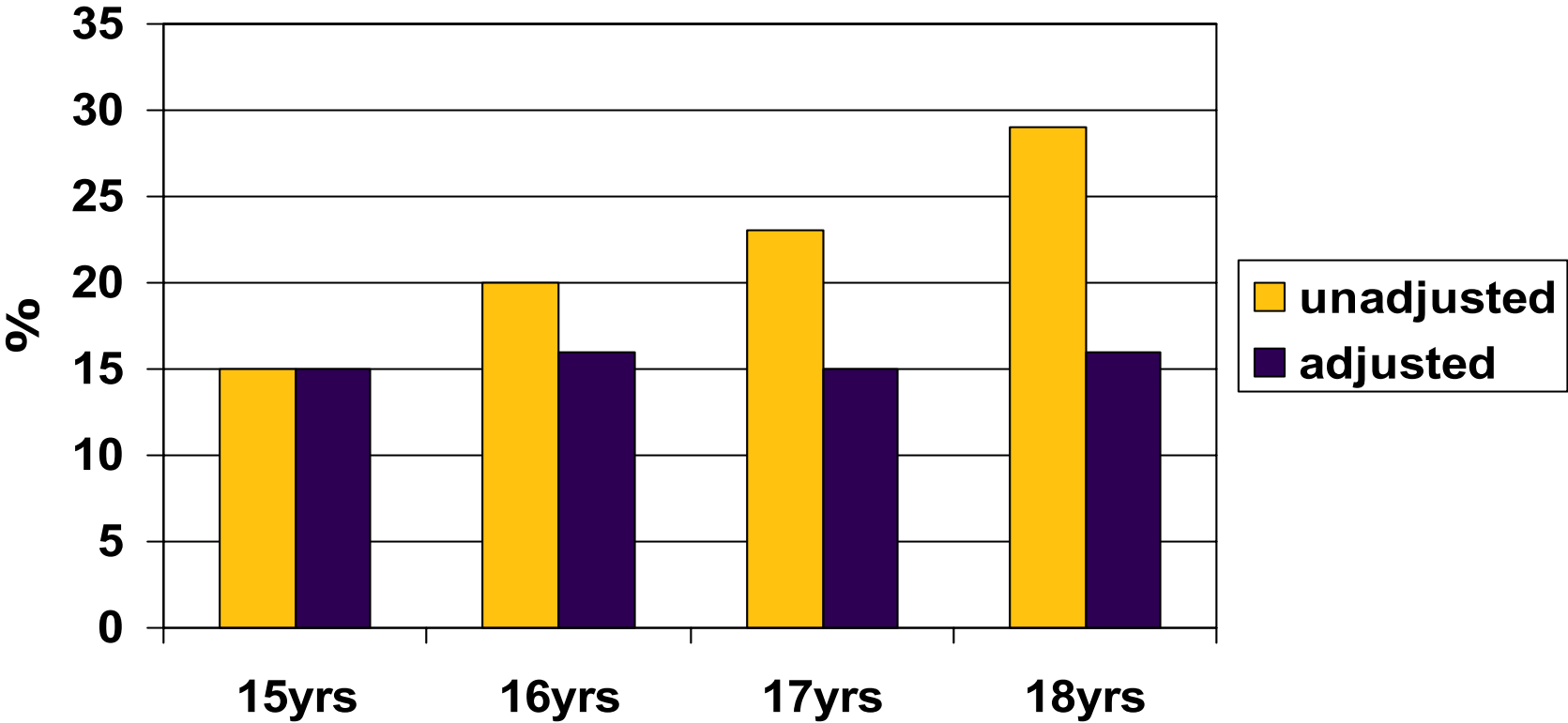


Evidence

Kissing on cheek is not an independent risk factor for disease.

**Mouth kissing (not cheek kissing) is an independent risk factor for disease and carriage. Tully J, 2006.
MacLennan J, 2006.**

Meningococcal carriage rate in teenagers

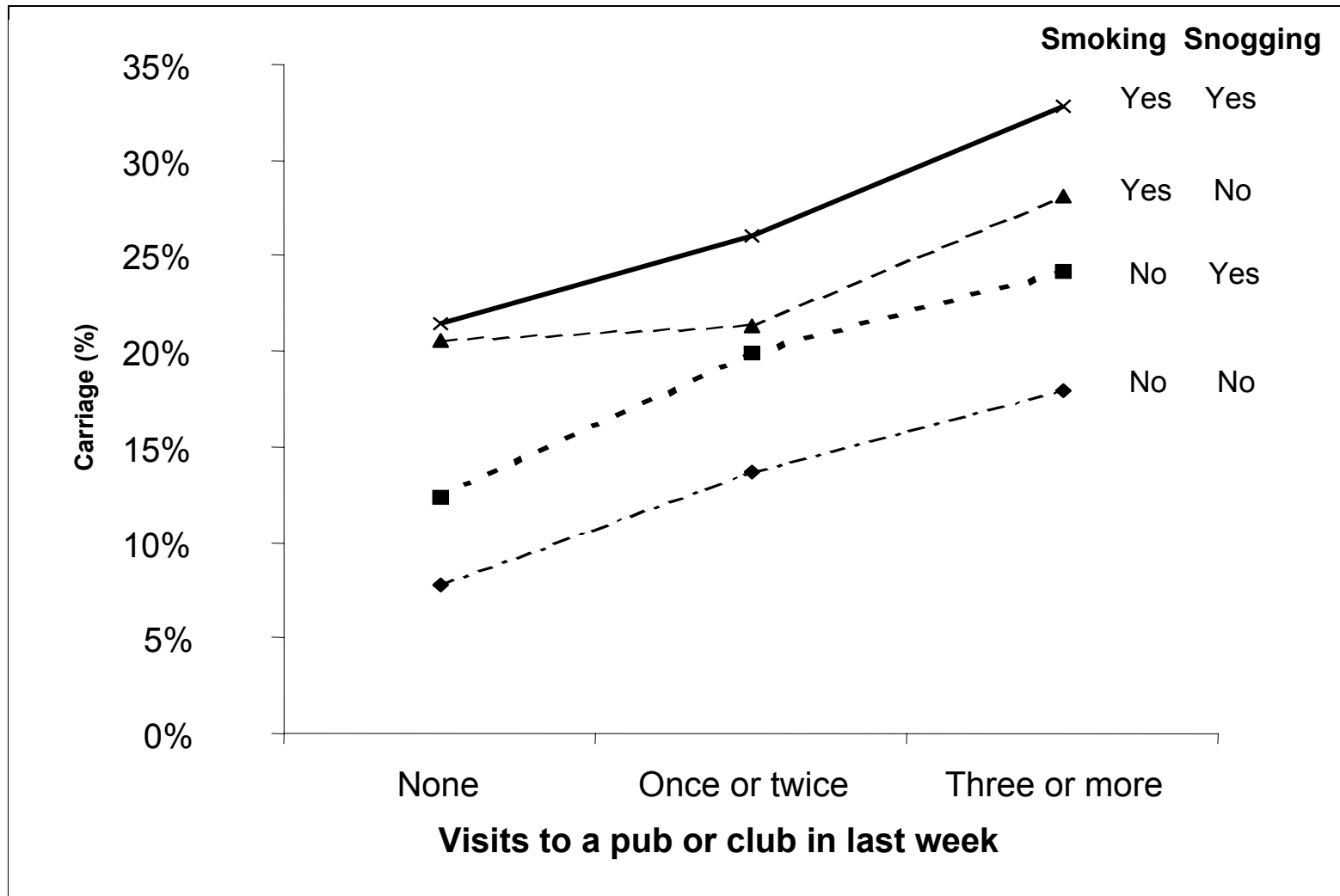






Her Kiss
SOHO, NYC

Combined effect of social factors



A poem

Before I heard the doctors tell
The dangers of a kiss
I'd considered kissing thee
The nearest thing to bliss.
But now I know the awful truth,
I sit and sigh and moan...
Ten million mad bacteria -
And I thought we were alone!

thanks to Vijay Kumar

PCR result on his blood sample confirms serogroup C

Do you offer meningococcal C vaccine to close contacts?

A. Yes

B. No

Euro Survey

Do you currently recommend vaccination of close contacts after a case of vaccine preventable disease?

Yes: 67%

Evidence to follow.....

And so on...

**Not surprising we have some variation across Europe
(and within Austria).**

The point is ...

Do we want to try to achieve more consistency?

PH Group unanimously in favour.

Which topics and how do we do it?

Agreed

to circulate questions (PH and microbiology)

to prioritise based on

consistency

international issues

evidence

hassle factor

public health importance

Belgian feeling

and for EPIET fellow to find the evidence

Public Health Challenges

And then we produce
some recommendations
for best practice
using evidence and consensus

This may take a while
and a few meetings
in nice places
like Rome